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EDITOR

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Original Articles

SOME IMPRESSIONS OF THE WORK IN LONDON.*

CHAIRMAN'S ADDRESS.

CHARLES H. BAKER, M.D.
BAY CITY, MICH.

It was my intention to bring to this Section some ideas gained by study of the clinics in several of the great cities of Europe. Circumstances prevented my doing anything of note in clinics, until the week of the Clinical Congress in London and that was interrupted upon the last day by the explosion of the war cloud which had been gathering for years over Europe.

Needless to say, all thought of clinics gave way before the anxiety of trying to bring together, with all lines of communication shut off, the members of a party separated in Germany and England. I trust you will pardon the admixture of clinical and personal experiences and hope I may bring a note of interest and novelty into our meeting.

First of the impressions, one gains of the really great men in the English hospitals, is that they are a lot of good fellows, free from buncombe and painfully modest. Now and then one is a ready talker but the most of them, however, much they know, are poorly equipped for displaying their attainments. Generally slow and very painstaking, they give the impression of want of deftness with their hands which is the prevalent American accomplishment.

From the sponges used to the complete hospitals, nearly everything is twenty-five years behind the times, although in places, like King's College hospital, the most up-to-date equipment is found in use. Technic was surgically far from faultless and frequently absolutely bad.

This seemed the impression of most of the men I talked with who were accustomed to our own work, so that I came away more than pleased with the position our clinics hold in the surgical world. Chloroform-ether or plain chloroform appeared the anesthetic of choice and only twice did I see pure ether or nitrous-oxide anesthesia attempted, and in both these chloroform finished the work.

Given by the hand ball and bottle method, chloroform anesthesia seemed robbed of most of its danger and, I believe, both from observation of its use there and my own experience with it, that if the statistics could be compared between this method of use and ether by the drop method, that this would advance chloroform into the region of safe anesthetics—particularly in children.

Sea-sponges were in quite general use and one could not help wondering how they secured even approximate antisepsis. Nowhere were there any mechanical suction pumps to remove blood and secretions to be seen, and in fact, mechanical aids were conspicuous by their absence in most clinics; simplicity and the smallest possible variety of instruments adequate for the needs of the operation being the rule.

Few of the operators gave any heed to the purpose of our visit, which was to see, and their arrangements for showing what they were doing were extremely bad. Apparently myopia was common among the assistants—at least judging by the proximity they found necessary between their eyes and the field of operation.

A few out of the better-known men had made some effort to accumulate cases to illustrate the advance they claimed in medicine.

Having knocked sufficiently, I wish to mention a few things I saw worth while reporting. Four years ago Dr. Hill showed me some remarkable radiograms of results he had with radium in malignant stricture of the esophagus and the same work is going on and good results being had, using large amounts of radium. The

*Read before Section on Ophthalmology and Oto-Laryngology M.S.M.S. 49th Annual Meeting, Lansing Sept. 10, 1914.

radium was contained in a tube of lead enclosed in a nickel shell, about $\frac{3}{4} \times \frac{1}{4}$ inch, screwed to the end of an aluminum wire. Hill's slotted esophageal tube was passed to the stricture under either local or general anesthesia, the radium was passed down to contact with the growth, and the wire, to which it was attached, brought to the angle of the mouth, bent to a right angle, and then, following the contour of the cheek, was brought around back of the neck, being held in place by surgeon's adhesive and allowed to remain fifteen hours. This is repeated in six weeks, and their reports show pretty general improvement both in patency of the stricture and relief of pain.

In mastoid work, the only novelties I saw were the use of zinc chlorid solution 40 to 60 grains in one ounce of water, for checking hemorrhage when venous oozing was troublesome, applied on a ganze pledget held in firm contact for a minute or so. Sinuses that were septic and hard to cleanse were gently washed with emulsion of soap made as follows: soft or hard soap aa gr. 60, olive oil m. 60, aqua distill. 1 pt. ft. emulsio.

The hair was best confined and protected for the mastoid operation by a towel folded and pinned, diaper fashion. It was surprising how easy this was to apply and effective it appeared.

Submucous resection was done under general anesthesia which was chloroform given through the mouth anesthetic gag, with the hand ball vapor bottle, preceded by scopolamine and morphine. The dissection was rapid and one could not help wondering how often perforation occurred. Suturing of mucous membrane after operation was common, and packing was generally sponge rubber which was cut into a rectangular prism plug and retained for twenty-four hours, placed only on the side of the slit in the membrane, leaving one nostril for breathing. The claim was that hemorrhage was not more common or severe than when both sides were packed while the patient's comfort was greatly enhanced.

Local infiltration anesthesia was also done with novacain and adrenalin, the claim being made that dissection was easier after its use.

One interesting and amusing incident was the symposium, at the Savoy hotel, on cleft palate at which Dr. Brophy, of Chicago, presented three of his patients imported from Chicago for the purpose; followed by three of Dr. Davis', of London, himself a cleft palate subject, who held diametrically opposite views concerning the mode of operation from those of Dr. Brophy.

Judging by the speech alone the latter had quite as good a case for his method as the former. His method of suturing in cleft palate appealed to me as the best thing I ever saw in this operation, the rubber tubing to reinforce the sutures being surely less irritating than any form of plates. When ready to suture, horsehair was the material, a short section of small rubber catheter was threaded on the suture which was then passed through the edges and across the cleft. A second piece of tubing was threaded on and the suture passed through the edges and back across the cleft and the loose ends tied sufficiently tight to approximate the denuded edges. Tension was thus elastic and distributed along the edges of the cleft rendering the chances of cutting out much less than with the unguarded suture and less bulky than plates.

Sir William Thompson's cases of laryngofissure for malignant disease of the larynx and the wonderful speaking ability acquired were surely worth seeing, but a description of his methods requires an entire paper.

A CASE OF "SQUIRREL PLAGUE" CONJUNCTIVITIS IN MAN.*

DERRICK T. VAIL, M.D., F.A.C.S.
CINCINNATI, OHIO.

It is believed that this is the first report of infection of the human eye from the virus of a plague-like disease among certain rodents, notably the California ground squirrel, and now known as "Squirrel Plague."

The case which I bring to your attention in this report, presented such unique, alarming and peculiar ocular symptoms that it was impossible from anything written in ophthalmic literature to render a clinical diagnosis.

I have to thank Prof. Wm. B. Wherry, of Cincinnati, who has won renown as a bacteriologist working for the government in the plague-stricken district of California during the recent epidemic of bubonic plague there, for the diagnosis. Without his splendid, accurate and convincing laboratory work, this case would have passed into oblivion, unrecognized and undiagnosed.

The present paper will embody the following:

First. A short historical review of California squirrel plague, which existed simultaneously with bubonic man plague in 1900-1910, and which was at first thought to be identical with it.

*Read before Section on Ophthalmology and Oto-Laryngology M.S.M.S. 49th Annual Meeting, Lansing Sept. 10, 1914.

Second. A report of my case of eye-infection from the known bacillus of squirrel plague and a sketch illustrating the appearance of the case at its climax.

Third. A brief report of the laboratory work of Prof. Wherry, Bacteriologist, and B. H. Lamb, senior student Ohio-Miami Medical College, Cincinnati, who diagnosed and proved by culture methods, animal inoculations and experiments that the ocular disease in my case was due to the so-called *Bacillus Tularensis* of McCoy and Chapin, or the "Squirrel Plague Bacillus."

HISTORICAL DATA ON CALIFORNIA SQUIRREL PLAGUE.

On December 8, 1908, the *Journal of Infectious Diseases* (Chicago) published an article by Dr. Wm. B. Wherry, at that time bacteriologist for the San Francisco Board of Health and temporary assistant surgeon of the United States Public Health and Marine Hospital Services, located at Oakland, California, on "Plague Among the Ground Squirrels of California." It is from this article that the following historical notes are gleaned:

The bubonic plague first appeared as an epidemic in the United States at San Francisco in 1900. The presumption was that plague-infected rats infesting in-coming ships from the orient, found their way ashore and that they constituted the source of infection for the human cases through the fleas that they harbored.

The human epidemic was at first practically limited to the inhabitants of China Town, San Francisco. In 1900 there were twenty-two fatal cases, in 1901 there were thirty cases with twenty-five deaths, in 1902 there were forty-one fatal cases, in 1903, seventeen died, in 1904, nine cases with eight deaths. All these cases were located in San Francisco.

The United States officer in command of plague suppression was Surgeon Rupert Blue, the same who is in charge of the bubonic plague situation in New Orleans at this present writing (1914).

Blue first suspected in 1903 that the plague which was destroying ground squirrels in such great numbers, as was being reported from many parts of the country about San Francisco, was nothing other than bubonic plague and he so published his suspicions to the authorities at that time, but was unable to secure dead animals for proof. Soon, however, human cases of plague-like infection began to appear in coun-

try districts, in which no reasonable mode of conveyance other than through squirrels seemed plausible.

Take the case of Charles Bock, a country blacksmith who came to San Francisco (Aug., 1903) from a neighboring village, and died of the plague. Surgeon Blue visited his town and learned that Bock had shot ground squirrels three or four days before his illness began. The following September (1903) another victim from another part of the county died from plague, a man who had been living in a railroad camp thirty miles away from civilization, and it was learned that these rough laborers often killed and ate ground squirrels. In 1904 rural cases continued to be reported here and there, and Dr. Blue, who was keen on the suspicion that ground squirrels were furnishing the infection, conducted a series of experiments through the aid of Assistant Surgeon Donald Currie, bacteriologist for the plague laboratory, and proved that the ground squirrel was very susceptible to plague infection, both by inoculation and direct contact. Blue then (1904) sent a man to investigate the county of Contra Costa to ascertain the truth of the many reports that came through various sources that the squirrels were being exterminated by a plague. This agent reported that the farmers were everywhere rejoiced at the disappearance of the ground squirrel. He also learned that the squirrels had been suffering from an epizootic.

It was then learned by another investigator (Past Assistant Surgeon J. D. Long) that armies of ground squirrels were seen at different times between the years 1903 and 1905 to be migrating across the country. Farmers had endeavored to secure sick squirrels to carry home to spread the infection. They burrow the ground, feed on grain and multiply so rapidly that they had become a great pest. In fact, one man offered a bounty of \$20 for a single sick squirrel.

After the earthquake of 1907, bubonic plague cases appeared in alarming numbers in San Francisco. There were 156 cases with seventy-eight deaths and country cases continued to appear, so that Blue directed his men to trap and collect rodents from Contra Costa county that a thorough search for plague might be made. Four hundred and twenty-three squirrels were sent in and among them were found four genuine cases of glandular suppurations in sick squirrels.

In spite of this many doubted that the disease in man was contracted from squirrels.

Soon, however, a case appeared in Los Angeles, which proved the direct communicability of the infection from squirrel to man without the intervention of fleas or biting insects. A boy 10 years old, living in Los Angeles, found a sick ground squirrel near his home. Being moved with compassion and thinking he would take it home, nurse it and make a pet of it, he picked it up, but the animal bit him on the finger. On the fourth day after he was taken sick with fever, delirium, etc., and the glands of the axilla on that side became swollen and painful. The abscess in the armpit was aspirated and G. W. McCoy, who was studying the case, found by experiments on guinea pigs and rats that the organism was similar to *Bacillus pestis*. Suppurative glands appeared elsewhere, but the boy finally recovered. In view of the fact that Currie had demonstrated that the saliva from the mouth of an infected squirrel was laden with infection, due most likely to the influence of plague pneumonia that was demonstrated, it is beyond question that this boy was directly infected from the bite of the squirrel and not from flea bites.

The experiments which proved infection by *direct contact* and which were carried out by Currie in 1904 were as follows:

Out of six healthy squirrels that were caged with plague-sick squirrels, three died of plague. Currie rubbed the shaved abdomen of a healthy squirrel with plague-infected spleen and placed it in a cage with two other healthy squirrels. In three days the infected squirrel died of plague and the spot which had been rubbed showed plague-dermatitis. In nine days one of the two healthy squirrels died of plague and in thirteen days the other likewise died.

It was now thought by many up to this time that squirrel-plague and man-plague were one and the same disease. This, however, proved untrue, for Past Assistant Surgeon George W. McCoy, of San Francisco, finally came out with a classical paper on the subject (see *Journal of Hygiene*, 1910, page 489-601) and proved among other things that there was a *distinct difference* between true bubonic plague and squirrel plague, the latter being less violent and the bacillus causing it being different from the true *Bacillus pestis*, although closely allied to it (see also *Journal Infectious Diseases*, 1909, page 676) and that fatal squirrel-plague is not identical in its pathology with fatal bubonic plague.

Finally in 1911 (see *Journal Infectious Diseases*, 1912, page 71), McCoy and Chapin

identified the germ of squirrel-plague, grew it on egg yolk culture, proved its entity, described it fully and named it *Bacillus Tularensis* after the county Tulare, in California, in which the disease was first observed. They state "the essential pathological lesions (of fatal squirrel-plague infection in rodents) are many whitish or yellowish caseous granules in the spleen and liver." Caseous modules also appear in the lymph glands.

REPORT OF MY CASE OF SQUIRREL-PLAGUE.† INFECTION OF THE HUMAN EYE.

E. E., male, aged 28, referred to me on November 24, 1913, by Dr. Paul DeCourcy, of Cincinnati, on account of an acute and violent inflammation of his left eye.

Occupation.—Meat cutter in a restaurant.

Family History.—Negative.

Personal History.—Measles at age of 7, mumps at age of 7; no other illness. Denies venereals.

Present Illness.—Three days ago left eye became inflamed and swollen. Tried medicine prescribed by a druggist, but eye became rapidly worse. The lid margins were agglutinated of mornings. Notices a "sore lump" in front of the left ear. Eye discharges much watery secretion. Has no pain; vision unaffected.

STATUS PRAESENS.

External Inspection.—Right eye, normal.

Left Eye.—Marked redness and swelling of both eyelids.

Intense chemosis is present.

Eye discharges muco-watery secretion.

Lashes are matted tuft-like.

General appearance of eye suggests gonorrheal ophthalmia.

The pre-auricular gland on that side is swollen to the size of a small cherry and is tender to touch.

Cornea, clear.

Tension, normal.

Iris, normal.

Pupil, normal in size and reaction.

Dioptric media, clear.

Ophthalmoscopic examination, negative
Vision, normal.

Palpebral conjunctiva: On everting the eyelids, the seat of disease is revealed. The conjunctiva is ridged with about ten discrete, deep, round, yellow necrotic ulcers, that run clear through the substantia propria of the conjunctiva quite to the tarsus. There are six such round ulcers over the upper tarsus and four at least over the lower tarsus. The ulcers appear punched out, but filled with golden yel-

†NOTE: "Squirrel Plague" may mean either of two diseases (1) true Bubonic Plague due to *Bac. Pestis* or (2) Plague-like due to *Bac. Tularensis*. This paper deals with the latter.

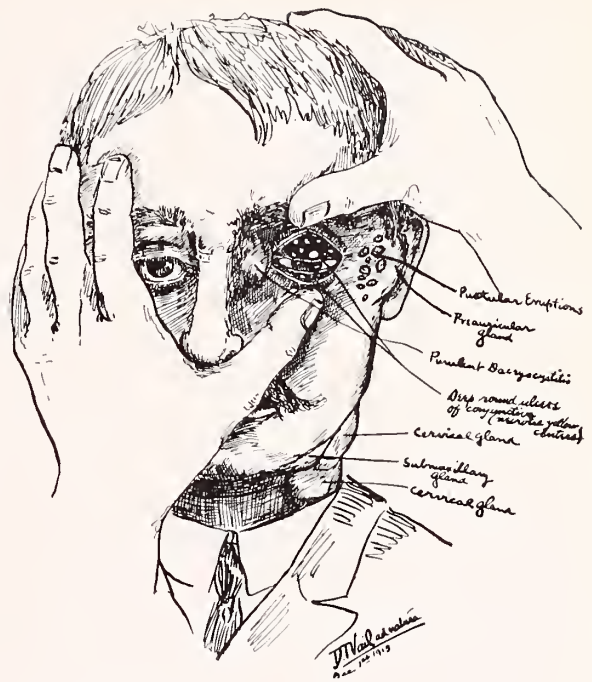
low necrotic plugs. Size vary from 6 m. m., the largest, which exists near the upper edge of the tarsus of the upper lid, to about 1.0 m. m. The surrounding conjunctiva is deep red, very soggy and swollen but does not bleed on being wiped with a wet cotton sponge. The necrotic plugs in the beds of the ulcers cannot be wiped away. The contrast between the deep red color of the conjunctiva and the brilliant golden color of the ulcers is as striking as a turkey-red calico dress with yellow "polka dots."

A smear was taken at once to search for the gonococcus, but none found. Cultures in nutrient agar and blood serum made, but nothing beyond mixed infection revealed after forty-eight hours. Patient warned as to the likely contagious nature of his trouble and was taught how to cleanse his eye and treat himself with the antiseptic and astringent washes and the yellow oxide mercury ointment which were prescribed. Diagnosis of "Parinaud's conjunctivitis" tentatively made.

November 25—next day. Eye looks worse, patient pale, temperature 100, preauricular gland more swollen, the lymph glands of the anterior triangle of the neck and submaxillary region of that side are easily felt to be enlarged and are tender. Diagnosis of Parinaud's conjunctivitis withdrawn on account of the ulcers. Too acute for tuberculosis and certainly not chancres or syphilis.

November 28. Patient is losing weight rapidly, looks cachectic and sick, temperature 102, glands of the left side face and neck are conspicuously large and now there is seen a discrete pustular eruption six or seven in number and 4 to 5 m.m. in size, something like the pustules of varicella, located on the left temple and malar region. The appearance of the left eye is not improved; cornea is, however, brilliant and vision unaffected. The left nostrils discharge a watery mucus freely. The left turbinated bodies are swollen and red. On account of the nasal symptoms and the pustular eruption on the left malar, the diagnosis is changed to "Glanders or Farcy" and patient urged to go to the Cincinnati Hospital, where he could get the benefit of proper treatment and laboratory diagnosis.

December 1. Patient did not go to the hospital; objected to leaving his family. Wants to continue treatment at my office. A new symptom has developed since two days ago. Infection of the left lachrymal sac with every evidence of abscess formation. The ulcers of the conjunctiva remain about the same in appearance, but are slightly more numerous. They are not epithelial ulcers such as we see in herpes, but perforate the conjunctiva quite to the tarsus. *Evidently the solitary lymph nodes of the conjunctiva are the seat of the necrosis.* The accompanying sketch was made to illustrate the appearance of the case at this time. His family physician, Dr. DeCourcy, finally persuaded him to apply to the Cincinnati Hospital for treatment. Dr. Robert Sattler was on duty at that time and we find the following clinical memoranda:



Right Eye.—Normal.

Left Eye.—Lids puffed and reddened.

Swelling size of hazel nut at inner canthus (purulent dacryocystitis.)

Ocular conjunctiva much congested.

On eversion of the lids the palpebral conjunctiva much thickened, roughened and reddened.

Conjunctiva ulcers are present.

Pressure on tear sac, which has consistency of well-filled bladder, does not evacuate it into the eye or nose. There are a half-dozen large pustules between the left eye and ear.

The anterior auricular and anterior cervical glands and those about the angle of the jaw are enlarged.

There are no glandular enlargements at the right side of the face.

Lungs.—Negative.

Heart and Circulatory Apparatus.—Negative.

Abdomen.—Negative.

Extremities-Genitalia.—Negative.

December 9. Abscess of the tear sac incised, discharging yellow, creamy pus.

December 10. Drainage from the abscess has ceased. Conjunctival ulcers gone. Ocular condition much improved, but the preauricular and other glands remain enlarged.

December 11. Patient discharged, improved. The temperature chart is characteristic of a general septic infection, highest being 102.6, evenings of December 4 and 5, but the morning temperature never below 100 until after December 5.

Several unsuccessful attempts were made to see the patient after he left the Hospital, Student Lamb calling at his residence several times and I sending him three letters, asking him to call and see me. He wrote me he was well and back at work, but we never saw him since. Evidently he had had enough of the doctors.

HOW COULD THE INFECTION OF THE CALIFORNIA
GROUND SQUIRREL PLAGUE FIND ITS WAY
INTO E. E.'S LEFT EYE IN CINCINNATI?

This is a question that is hard to answer definitely. It has been proven by various students of the disease, Blue, McCoy, Chapin, Currie, Long, Wherry and others, that all rodents are susceptible to infection by direct contact, squirrels and rabbits particularly so. Three facts are significant:

1. Wherry in his last article just published (see *Journal of Infectious Diseases*, September, 1914) says that "a year previously (to this case) we had heard from a hunter that wild rabbits were dying in large numbers across the Ohio River in Kentucky." Moreover, this man was infected during the hunting season when the market is open to the sale of rabbits and I, myself, (being a hunter) was interested in reading in a Cincinnati daily date about November 29, 1913, a note from rabbit hunters in the vicinity of Cincinnati, stating they were finding large numbers of dead rabbits in the fields and the opinion that they were "being exterminated by a plague of some sort."

2. Health Officer Landis, of Cincinnati, learning the markets of the city were selling rotten rabbits, investigated and found large quantities of putrid rabbits on sale at five cents apiece. He rightly condemned all of them and reports that 36,420 pounds of decayed rabbit were thus seized and destroyed between November 1 and December 6, 1913. My patient was infected in the height of this season.

3. My patient was by occupation a meat cutter in a cheap restaurant located in the tenement and slum district of the city close to the markets. The inference is fair that rabbits affected with caseous buboes came to his table for cutting, that he held the diseased meat in his left hand, cutting with the knife held in his right hand and that he introduced the poison into his left eye from his left finger. We have no proof for this, but it would pass for "Sherlock Holmes" evidence.

LABORATORY EXAMINATION.

We come now to the Proof of Squirrel Plague Infection in this Case, by Prof. Wherry, Bacteriologist and Senior Student B. H. Lamb.

A full detailed report of Prof. Wherry's investigation, culture methods, inoculations, animal experimentations and post mortems in connection with the case is published by Wherry and Lamb in the current issue of the *Chicago Journal of Infectious Diseases* (September,

1914), illustrated in colors and photographs by Prof. Wherry.

"Guinea pig No. 1 received on December 4, 1913, an intra-peritoneal injection of scrapings from a conjunctival ulcer from the patient's eye, suspended in normal sterile salt solution." Died December 10. Post mortem shows acute pneumonia, the spleen and liver are congested and enlarged and show numerous scattered foci of necrosis. No bacteria found on various smear preparations variously stained. Various culture media remained sterile as to aerobic and anaerobic bacilli for a month.

"The disease was kept going through a series of guinea pigs while isolation experiments were in progress;" nothing definite was found, but "after passing the virus through twenty-four animals, we (Wherry and Lamb) became acquainted with the work of McCoy and Chapin (see above) and by using the *coagulated egg-yolk*, on which they were able to grow *Bacillus Tularensis*, we isolated what we believed to be the same bacterium."

The Berkefeld filter prevented the germ from passing through as proven by experiment injections on guinea pigs. This corroborates McCoy and Chapin's findings, "while guinea pig No. 20, used as a control, was injected subcutaneously with two cubic centimeters of the unfiltered extract. It died in three days with typical lesions and *Bacillus Tularensis* was isolated in an ovomucoid-yolk culture from an inguinal bubo."

The tests and measurements of the bacillus by Wherry tallied very closely to those of McCoy.

In carrying out their investigations to prove this case, Wherry and Lamb used "forty-nine guinea pigs, three Belgium hares, three white rats, three kittens and one pigeon." "The guinea pigs, as a rule, succumbed on the fourth or fifth day after cutaneous inoculation with spleen juice or when pricked in the eye with an infected needle" and again simply dipping a fine needle into the spleen of a dead animal or into a culture and pricking the ocular or palpebral conjunctiva of rabbits or guinea pigs results in the production of multiple areas of necrosis on the palpebral conjunctiva, *just like those in the human case* and is followed by septicemia and death in a few days.

Wherry showed me the head and viscera of rabbit No. 1, which had been pricked in the conjunctiva, as above suggested. The eyelids were everted on tooth-pick stays and presented the same typical round necrotic ulcers my case

had presented: moreover the lymph glands in front of the rabbit's ear and down the side of its neck were greatly enlarged.

The white rats inoculated intraperitoneally died in two days or less. The kittens survived. *An infected emulsion was dropped in the healthy eye of guinea pig No. 38. It died in four days time. The conjunctiva presented the same round ulcers and the lymphatic glands of the neck were markedly involved.*

Guinea pig No. 34 was fed on most of the spleen of a dead guinea pig. It died in three days time.

Wherry and Lamb conclude their article by stating "We wish to call attention to the fact that this recently discovered disease of rodents is apparently sufficiently virulent for gray mice to warrant the presumption that it may some day take its place along with *Bacillus Pestis* as a menace to man."

From the evidence submitted, I think we may make the claim beyond doubt that the case of E. E. was one of *squirrel plague ophthalmia* and I believe the first case on record.

24 East Eighth St., Cincinnati.

THE INFERIOR TURBINATE; ITS FLAP RESECTION TO REDUCE IT WHEN OBSTRUCTIVE.*

OTTO T. FREER, M.D.
CHICAGO, ILL.

Three years ago I described, as I then performed it, the operation here set forth, but I have felt the need of again bringing it to notice because I have improved some of the details of its execution, because it has not received the attention which I know that its advantages deserve and because it has been asserted, by some who have tried it, that the operation can not be performed. It is an exact surgical procedure in which incised wounds in mucous membrane and bone and complete covering of exposed bone by mucous membrane, give least reaction with quick and smooth healing and the preservation of enough of the turbinate to continue its moistening and dust catching function, while permanently preventing its obstructive turgescence. In this it is superior to the complete removal of the turbinate with the saw, punch or scissors which leave uncovered bone to granulate over with prolonged scabbing and the danger of severe bleeding many days after the operation. As for some of the rough and forcible manip-

ulations now employed in place of surgical art to remove inferior turbinate obstruction, such as fracturing the turbinate over against the outer nasal wall, or crushing it, these methods represent a surprising lack of comprehension of the anatomy and surgical needs of the conditions encountered and are ineffective because in spite of the injurious violence employed, they leave the tough and resistant swell-body of the turbinate entirely or enough intact to continue to fill with blood and so block the naris.

Resection of the inferior turbinate is demanded when chronic intumescence, permanent or remittent, or simply chronic hyperplasia make it a constant or nearly constant obstacle to respiration.

Chronic intumescence is an exaggeration of the physiologic function of the lower turbinate which makes it fill with blood or empty itself according to the varying demand for moistening of the inspired air offered by the changing humidity of the atmosphere, this physiologic filling and emptying of the turbinate lacunar veins being, however, always within limits unobstructive of the air current. Irritation of the nasal mucosa by hot, dry air, by dust or other irritant, or conditions making the mucous membrane abnormally sensitive, such as scabbing, eczematous states of the coverings of the front of the septum, will also by reflex cause the cavernous tissue of the lower turbinates to swell in a protective manner in order to close the irritated naris against the air current. Such swelling of the lower turbinates, however, usually disappears with its cause, but in many persons especially those with general venous congestion due to an inactive life or a florid constitution, or in people with a nervous temperament, the response to even slight irritants in the nose, whether dry air, dust or pollen, is extreme, the turbinate puffing up until it fills the naris from its floor to the middle meatus and shutting off all or nearly all of the air current. Finally this turgescence becomes remittently chronic and habitual, occurring independently of irritation. The process is apt to be accompanied by symptoms of irritation of the ethmoidal nerves and sphenothmoidal nerves and their connections such as headache, lachrymation, sneezing, asthma and so forth. The intumescence is usually unilateral, changing from naris to naris and is worse at night, when the head is charged with blood in the prone position. While many of these patients have hay fever, most of them have the intumescent condition during the

*Read before Section on Ophthalmology and Oto-Laryngology M.S.M.S. 49th Annual Meeting, Lansing Sept. 10, 1914.

whole year. Coming for inspection in periods of remission, as such patients often do, the nares may be found entirely clear, the lower turbinates retracted and the whole complaint to the inexperienced may seem groundless until the nose is seen in its intumescent state. As the condition is purely a vasomotor one and not catarrhal, it is readily understood that the usual antecatharrhal topical applications are of no effect.

The seat of the exaggerated reflex in these

air current with consequent excess of drying of the epithelium, deposit of dust and air friction, the response being a protective reflex swelling of the inferior turbinate in this, the constructively roomy nostril, the use of which is thus limited. The increased respiratory suction needed in such cases to get enough air through the nose also favors chronic distension of the veins of the turbinate, placing them as it were under a cupping glass. In time, in these cases, due to the many years of duration of the

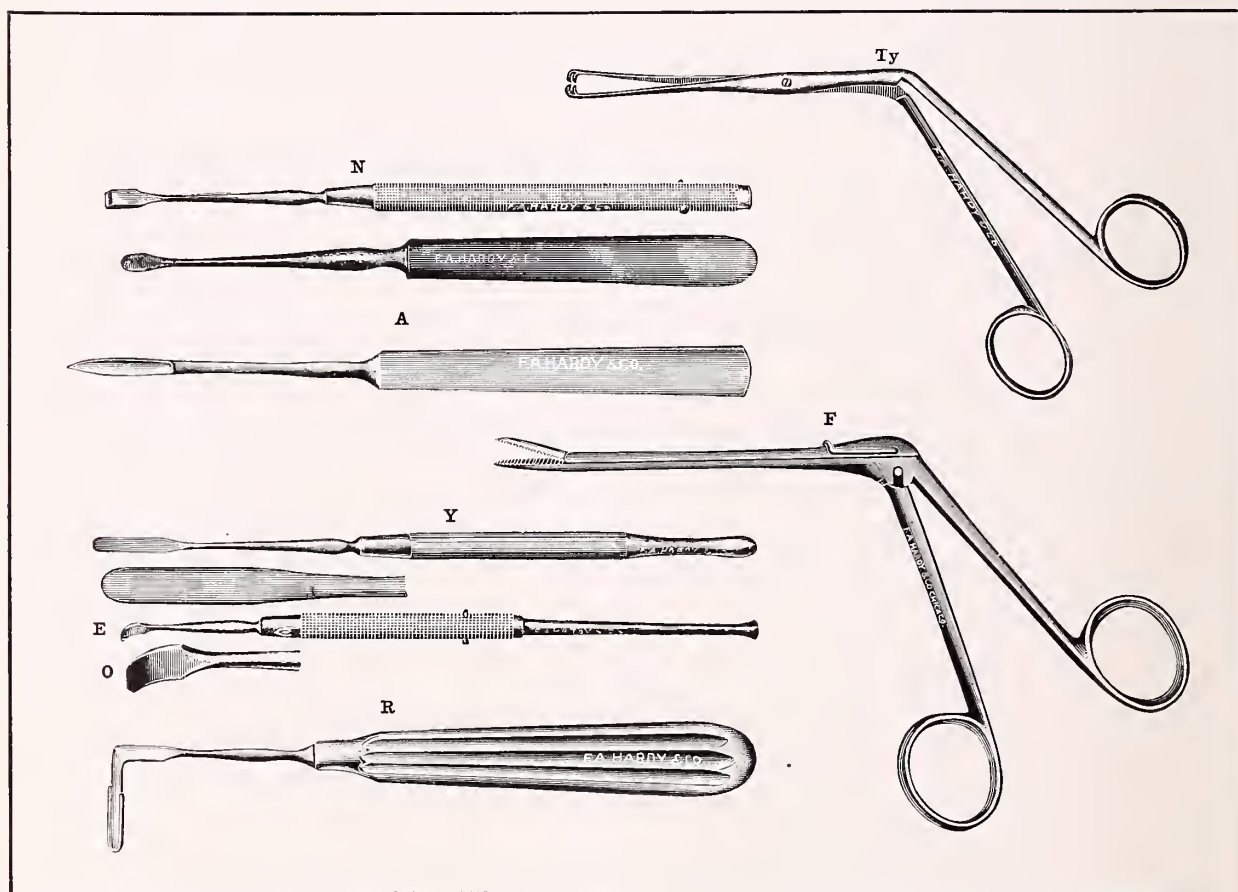


Fig. 1. Instruments for the operation. R, new shortened nasal retractors; A, long knife used for the incision and to elevate the flap from below; O, rasp; Y, long elevator, blunt and sharp; E, knife for use in elevating the mucosoperiosteum; N, chisel; F, Noyes' heavy nasal alligator forceps for grasping the partly detached turbinated bone; Ty, Tydings' tonsil forceps for seizing a voluminous posterior end of the turbinate for its excision.

purely irritative cases seems to be chiefly the lower turbinate, for it has been my experience that its resection has often removed not only the obstructive swelling but also the sneezing, headache or asthma likewise dependent upon the reflex.

In an other class of cases the nasal irritability and the intumescence is symptomatic of a fundamental narrowness of one naris acting as the primary cause of the condition. The most frequent reason for such narrowness is a deflection of the septum sufficiently great to nearly or entirely occlude one naris. Here the other, open naris has to transmit all or nearly all of the

conditions, there may be some genuine hypertrophy of the lower turbinate, but, as a rule, it shrinks to a normal size upon the use of adrenalin, showing that it is an obstacle to breathing merely because of its turgid state, a state which, however, usually outlasts its primary cause, the deflection, even after the latter has been corrected. In contrast, the lower turbinate upon the side of the deflection, being excluded from the irritating effect of the air current by the deflection, is usually retracted and stays so after the deflection has been removed.

The condition is different in cases where a moderate unilateral deflection merely somewhat

narrows one nostril or a sigmoid deflection both nostrils. Here there is an excess of air friction in both nares so that such deflections are apt to be accompanied by intumescence of both lower turbinates.

In many mild cases of chronic intumescence of the lower turbinates due to reflex irritation, the swelling may be much diminished by the use of oil vaseline sprayed into the nares to protect the epithelium, lessen evaporation, drying of the epithelium and the contact of dust. In cases where the anterior nares are dry and thin scabs form upon the turbinates and septum an ointment of boric acid thirty grains, lanolin one half ounce, oil vaseline one half ounce will greatly reduce turbinate reflex intumescence. Where turbinate intumescence from whatever cause, has, however, become chronic and inveterate, nothing but surgical reduction of the turbinate will ensure proper nasal breathing.

True hypertrophy as a cause of enlargement of the inferior turbinated body is much rarer than the simple venous intumescence described. Intumescence is, however, often mistaken for true hypertrophy, especially in those cases where the posterior ends of the lower turbinates fill up the choanae and project into the nasopharynx as globular, nodular tumors. While such swellings may be hyperplastic they are oftener merely great distentions of the posterior ends of the turbinates with blood and disappear completely upon the application of adrenalin.

In true hypertrophy the turbinate usually feels somewhat firm to the probe while in intumescence it sinks into the enlarged turbinate as into an air cushion. In hypertrophy the surface of the turbinate is often nodular, verrucous or irregular while its color is usually pale. The chief means of distinction though is always the application of adrenalin which causes only moderate shrinkage of hypertrophy while it causes complete disappearance of intumescence.

There are cases of tertiary syphilitic inferior turbinate hypertrophy which deceptively simulate ordinary hypertrophy in appearance. In the case of syphilis, however, close inspection will usually discover a shallow ulcer somewhere which will disclose the nature of the disease. The idea that tertiary syphilis is always rapidly destructive in the nose should be discarded, for in many cases it is mild and indolent with only slight ulceration and much hyperplasia.

In simple chronic hypertrophy of the lower

turbinate I have often found that the process had been accompanied by rarifying osteitis with absorption of most of the lower turbinated bone, merely detached thin plates of bone remaining so that the turbinate had become a mere bag of hypertrophied mucous membrane.

THE OPERATION.

In employing a new method it is best at first to stick closely to the description of its originator. Variations may be tried later when proficiency is attained. I think that most of the failures to follow the procedure here described are due to thinking its details unimportant. They are the outgrowth of experience and should be closely followed.

The operation is done under cocaine anesthesia and I have never needed a general anesthetic for it. This is chiefly due to the fact that it is rarely needed for children, much more rarely than the submucous resection of the septum. In the case of timid children I should use a slumber narcosis combined with local anesthesia. To show that the operation under cocaine is painless I mention that I have resected both inferior turbinates in a five year old child without general anesthesia.

The cocaine is used in the form of cocaine adrenalin mud, used as I employ it in my operation, the cocaine being rubbed upon the turbinate with a fine swab and in addition upon the region of the external branch of the ethmoidal nerve as it descends from above upon the turbinate. Alyn powder is a good substitute for the cocaine, where previous experience has shown the existence of a cocaine idiosyncrasy.

The patient is placed semirecumbent upon an operating chair, a dental chair, which may be raised and lowered being preferred. The light employed is the Kirstein headlamp. It is the only light which is strictly axial, has a long focus and which will light evenly the whole length of the turbinate, its posterior end and the nasopharynx beyond it being brightly illuminated. The headmirror will not do, it has a focal point of light, not the long searchlight pencil of parallel rays of the Kirstein light, so that, while the close approach needed for the exact vision demanded by the operation leaves the pathway of light obtained from the Kirstein unchanged, it causes dispersion of the rays and darkness in the depths of the naris where the headmirror is employed nearer than its focal distance.

An assistant standing behind the patient's head holds the nostrils open with two of my

improved shortened nasal retractors (Fig. 1, R) which give a shorter and therefore a steadier and gentler hold than the old ones, so that they do not hurt the patient nor fatigue the assistant. The assistant can see the entire operation by looking into the mirror of the Kirstein head-

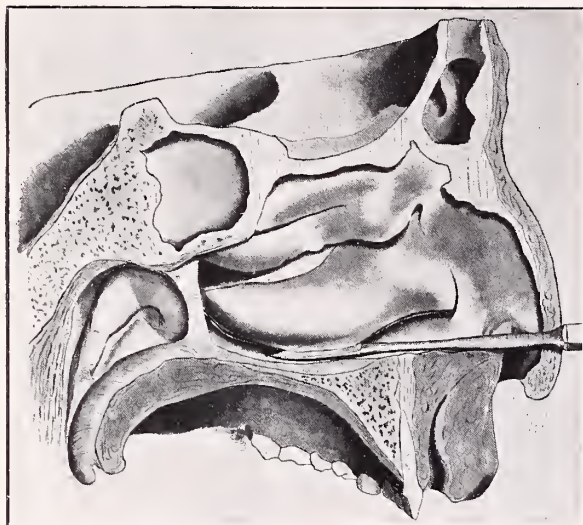


Fig. 2. Side view of the left naris after removal of all but the rearmost end of the septum. The knife is seen in the incision which outlines the flap along the lower border and across the front end of the lower turbinate. Drawn from a specimen.

lamp, as it gives him the same axial and deep vision that the operator has.

In addition to the retractors held by the assistant the operator usually needs a third retractor held in his left hand to pull open the nostril downward in order to permit him to see better along the nasal floor.

In typical cases of intumescence the operation is begun by a horizontal incision to the bone made with the knife (Fig. (1, A) (Fig. 2) from the rearmost end of the turbinate forward along its lower border to its very front, terminating here in an upward sweep by a vertical cut which lies across the foremost part of the turbinate. This outlines the usual flap. In cases, however, where before adrenalin shrinkage the mucosa bags in folds and is obviously very voluminous, a flap outlined in this manner would prove too large and hence the incision is not made along the lower border in such cases but parallel to and above it upon the convexity of the turbinate.

From the horizontal part of the incision the knife is used to elevate upward as much of the flap as possible. The operator then continues its elevation from in front from the vertical part of the incision by means of the raspatory, the sharp elevators or knives (Fig. 1, O, Y, E)

from my septum set. The elevation is not easy as the turbinate mucosa-periosteum with its tough network of cavernous veins adheres to the rough surface of the bone as does the flesh of a clingstone peach to its stone. The raspatory is the instrument especially suited to such work and it carries the elevation of the flap to the rearmost part of the turbinated body and upward over its convexity without much difficulty, once the work is started. When the entire flap is loosened it may be pushed upward out of the way into the middle meatus.

If during the elevation the patient complain of pain, fresh cocaine mud is applied directly to the wound under the flap as it is made.

As the next step the chisel (Fig. 1, N), its bevel looking toward the nasal floor, is supplied to the foremost attachment of the lower turbinated bone, now lying bared to view, and, in the usual case, the chisel is made to follow the line (Fig. 3) of merging of the lower vertical part of the turbinate with its upper horizontal part. According to need the chisel may be made to cut along a higher level and take away a portion of the horizontal part of the turbinate as well. After the thicker anterior part of the turbinated bone has been cut through, the chisel may usually be pushed by hand through the thinner bone behind it to the rear of the turbinate. In cutting the bone the chisel also cuts through the mucosa of the under, concave side of the turbinate, which is thus discarded

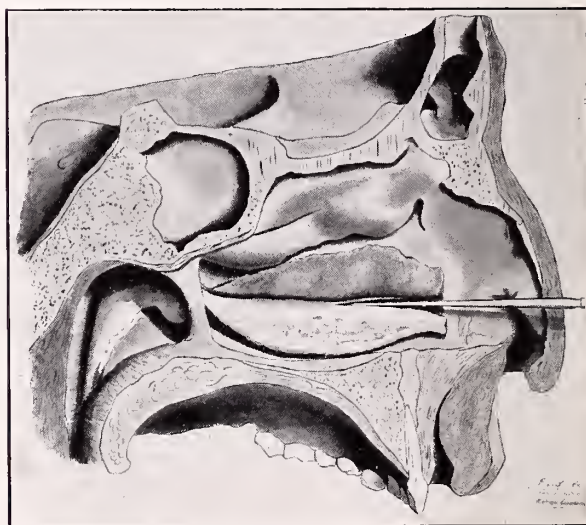


Fig. 3. The same view as in Figure 2. The chisel is seen longitudinally resecting the lower turbinated bone.

for, if retained while merely a part of the bone is submucously removed, the resulting reduced turbinate is flabby and voluminously obstructive.

The chisel used has a very long bevel because the bone to be cut is light and shell like, the

long bevel making the chisel cut cleanly through the bone and with the use of little force. The ordinary abrupt chisel bevel makes the instrument break its way through thin, frail bone.

When severed by the chisel the loosened piece of the turbinate is now firmly grasped with the forceps (Fig. 1, F) and pulled strongly forward, thus pulling taut the soft parts which still hold the partly detached part of the turbinate at its posterior end, so that they may be cut through with the long sharp elevator (Fig. 1, Y). This is introduced alongside the forceps and made to cut upward, downward and around the rear end of the turbinate (Fig. 4).

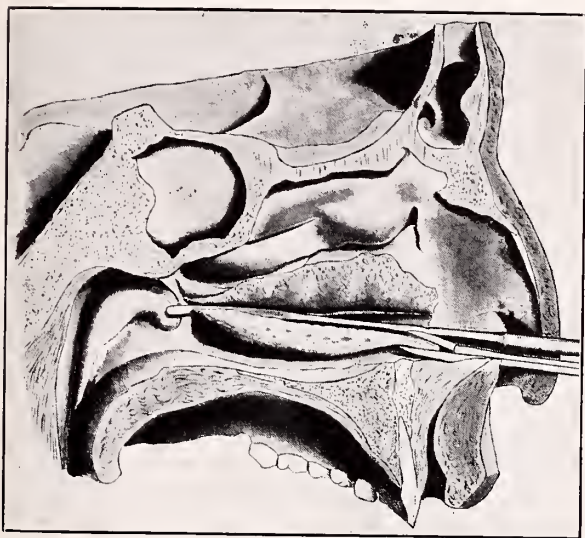


Fig. 4. The same view as in Figures 2 and 3. The front end of the partly detached piece of the lower turbinate bone is pulled upon with the forceps while the long sharp elevator is used to cut loose attached posterior end.

When the last strand is cut through the resected part of the turbinate suddenly comes out of the nose in the grasp of the forceps.

The flap is then smoothed down and operator finds that he has now a reduced turbinate, small enough to ensure against renewed obstruction by swelling, but large enough to retain the function of the turbinate. All bone is smoothly covered by the flap.

The rearmost part of the turbinate must now be inspected and felt with the long dull elevator of my septum set (Fig. 1, Y) because the resection often leaves the mucous membrane cap of the posterior end of the turbinate as a freely movable, pendulous lump which, if not removed, would swell and stop up the rear end of the naris. To take away this cap it is seized with the Tydings tonsil forceps (Fig. 1, Ty) and pulled outward while it is severed at its base with the very sharp knife (Fig. 1, A) resharpened upon a stone if necessary. Indeed,

all of the blades must be kept very sharp and should be touched up for every operation.

The operation is now completed and the nose is packed with my layer packing as follows:

The packing is the one I use in all of my nose operations and consists of strips of Johnson & Johnson's sterilized lint (not gauze) one-fourth of an inch wide and impregnated with dry subnitrate of bismuth powder. The bismuth keeps the strips in the nose aseptic and odorless as long as a week or longer. I was the first one to use bismuth as an antiseptic for nasal dressings and have employed it since the year 1901, describing it in my first paper on the submucous resection of the septum in 1902, several years before the brothers, Karl, Emil and Joseph Beck began its use in their bismuth paste.

The lint-bismuth layer packing has the further advantage that it soon adheres by fibrin to the epithelium of the naris and especially to the wound-line, forming a firm, aseptic seal for the vessels. After three or four days the strips become movable and loose of their own accord and may be readily extracted.

The method of introduction is as follows: Each strip, folded upon itself and pulled taut over the end of my long septum elevator, is carried back as far as the prominence of the Eustachian tube, one folded strip being laid evenly upon the other, until the entire posterior naris is filled from the nasal floor up to the body of the sphenoid bone. This effectually plugs the choana and compresses and seals the vessels at the posterior end of the lower turbinate, where the danger of delayed bleeding is greatest and where it is hardest to control. To place rubber dam or other slippery waterproof membrane, as is often done, over the wound in packing has the disadvantage that there is no sealing of the vessels as described, so that the entire reliance for preventing hemorrhage must be placed upon pressure, a very tight and hence painful packing being necessary, while bleeding is liable to take place in spite of it. Where the wound is sealed with the adherent bismuth lint, only mild pressure is needed to prevent bleed- and there is no danger of accidental slipping out of the packing, an occurrence which has led to severe hemorrhage.

It is unwise not to pack at all, as is advised by some inexperienced writers. The lower turbinate is far more liable to delayed bleeding and for a much longer time than the nasal septum, even for several days. Although the

covering of the bone by the flap makes bleeding much less likely to occur than where the bone is exposed, late bleeding may nevertheless take place from underneath the flap, if it be not held down by the tampon and is especially likely to occur from the rear of the turbinate where it has been necessary to cut off a pendulous posterior end. The delayed bleeding in unpacked cases may be severe, even to syncope. Even if the patient left without a tampon be in a hospital, the suddenness and severity of the bleeding which is likely to occur when the adrenalin and cocaine effect has been followed by vascular relaxation will disconcert an interne, for even an expert rhinologist finds it difficult to pack a nose during a furious hemorrhage. The usual course of events in such cases is an ineffective attempt to plug the posterior nares and the forcible poking into the naris of a loose strip of gauze, while the bleeding continues nevertheless in an alarming way until syncope or the arrival of the rhinologist and proper packing end it. Instead of risking the disagreeable happening described it is much wiser to apply the bismuth-lint layer packing as a preventive than as a cure, although it may be relied upon to promptly check delayed bleeding when introduced.

Since I have used the layer packing combined with flap turbinotomy I have had no bleedings and I do not hesitate to let my patient go to his home. Where, however, as is usually done, the turbinated body is simply amputated, bone and mucosa being cut on the same level, even the layer tampon will not absolutely insure against bleeding, for such an amputation creates a bad stump, the mucosa retracting and leaving the bone and its vessels exposed. After such operations bleeding may take place as late as the ninth day after the operation and long after the tampon has been removed.

On account of the liability to bleeding from the lower turbinate the packing should not be disturbed until the third day. Whatever strips at that time pull out easily may be extracted, but any strip that adheres at all and resists the pull should be left in place until such a time as it will come out easily, even if this be as late as the fifth day. Forcible extraction of an adherent strip may lead to a bleeding that may require an immediate repacking.

When the packing is out the flap will be found to have healed down. The external nostril should, however, be kept closed to the air current for about ten days by a small wad of cotton, frequently changed, in order to prevent the

scabbing and discharge that follow too early a use of the naris. It takes two weeks to heal merely a barked knuckle and it is strange that nose surgeons expect a naris containing a bone wound to be ready for use in a day or two. Too early opening of the nostril to the air current with its dust and germs may in some cases cause suppurative rhinitis with possible sinus complications.

When the patient is permitted to use his nostril, he should be taught to anoint it with an ointment of lanolin and oil vaseline equal parts, with boracic acid forty grains to the ounce. This will prevent scabbing until the tendency to it ceases in a few weeks.

DISCUSSION.

DR. SHURLEY, Detroit: Mr. Chairman, Gentlemen of the Section: We are certainly in the era of conservation, prevention and progress and Dr. Freer's paper is decidedly along the line of conservative methods in intranasal surgery. Dr. Freer is an inventive genius in the surgical world. He has designed many new instruments for us, perhaps more than any other member, and there is always an ingenuity and usefulness attached to them. As we become more and more veterans in the field we come down from the use of a great many instruments to four or five.

The problem of intumescent lower turbinate is one of the things that we meet with constantly in the state of Michigan and are called upon to relieve daily. The whole question depends upon the particular operation for the particular case for which it is necessary. I feel that it has a field of special usefulness. A large number of cases are due to some systemic condition of the individual and when this is removed, intumescence disappears. Then again there are a large number of mild cases which are relieved by the careful use of cauterization or some similar method.

We are called upon, then, in a comparatively small number of cases to proceed to what would be a turbinectomy. Personally, I have been satisfied to remove by old methods feeling that patients are satisfied with relief that is necessary for their case.

Dr. Freer's operation as described requires a fairly formidable technic and presupposes an expert at intranasal operating.

DR. L. J. GOUX, Detroit: To me these cases of intumescence have been about as irritating as almost any case that comes into the office. It seems like rather an inconsequential condition. You can treat them and tide them over but it seems to be but a short time when they are in the same condition again.

As this operation is described, the Doctor says he removes the turbinate and the mucosa on the outer concave side. My practice has been in these cases, and it has been very satisfactory, to take off a very small portion of the turbinate bone making sure that I always get the hypertrophied parts. You can remove much or little of the turbinate bone, just as the case de-

mands. By removing only a small portion, you get a firm cicatrix which never swells.

DR. W. H. HAUGHEY, Battle Creek: I would like first, before I say anything about the operation, to thank Dr. Freer for his interest in our section. Dr. Freer came to Michigan two years ago when we first organized and gave us a very good paper and contributed greatly to the success of the section at that time. He has come here this year, very kindly, and I think he can notice growth in the section.

In regard to this operation, I agree with all who have spoken in a great many things. I think the operation is limited in a great many cases as Dr. Freer says, but I think it has a wide use. I have done the work and don't see why one should be afraid to go ahead and do it. We should be sure to follow the technic. It removes only a very small amount of the mucous membrane and that is behind the turbinate.

The other method which Dr. Goux mentioned, in my experience has always left a little exposed bone to heal over which is very slow. The Freer method heals quite rapidly. I think it is well to keep the nose blocked up with cotton but do not for full two weeks as Dr. Freer advises.

DR. BERNSTEIN, Kalamazoo: Rhinologists are much indebted to Dr. Freer for his many contributions of our special line of work. His submucous resection work is alone enough to make him worthy of our gratitude, now comes this important contribution to the surgery of the turbinates which bids fair to add more lustre to his research. However, I am inclined to agree with Dr. Shurley in thinking this can only be indicated in a certain small percentage of cases. The great majority will give us all that we can require by more simple means. I do not agree with Dr. Shurley about the use of the electro cautery; as far as I am concerned that apparatus has gone into innocuous desuetude in my office for a score of years.

There are two things I should like to ask Dr. Freer in his closing remarks: first to give his indications for this submucous resection for the turbinates. The second is to tell us his attitude in regard to syphilis, as a contraindication for any operation in the nose. The reason I ask this latter question is, that at the June meeting of the laryngological section of the A.M.A. a paper was read the trend of which was that no operation be undertaken in the nose till a negative Wassermann was obtained. I believe this is fallacious and impracticable. I know I have through error it is true, operated on active syphilitics and still gotten perfect results.

DR. C. H. BAKER, Bay City: I would like to say a few words in regard to this, if it is the chairman's privilege. In the discussion we have gotten away from the fact that we are discussing Dr. Freer's operation and not introducing others in its stead.

So far as Dr. Goux contends that his operation is just as good as the other, I think that Dr. Freer has one very important point of difference which is, by the formation of his flap he is able to cover over the bone in such a way that there is no scar which may give trouble later on.

Dr. Freer has demonstrated the possibility of leaving packing in the nose for two weeks, which is

quite different from what I have been in the habit of doing. Ordinarily I remove the packing the second day after the operation. Hemorrhage following soon after completion of the operation is due to the relaxation of the vessels from the over-stimulation due to the adrenalin and after twenty-four hours have elapsed, that tendency is gone and the clot which forms is sufficient protection so that I had no trouble from further hemorrhage. I certainly shall adopt Dr. Freer's technic in this operation in those cases for which it seems manifestly suitable, and I think as Dr. Haughey has said that this section owes Dr. Freer a vote of thanks for the interest which he takes in us and the great benefits which his papers always bring us.

DR. FREER, closing: The warm welcome given its guests by the Section on Eye, Ear, Nose and Throat of the Michigan State Medical Society always makes them feel very much at home and desirous of coming to future meetings.

Dr. Shurly's criticism that I create too many new instruments for the operations devised by me does not apply to the flap turbinate resection, for all of the instruments are standard ones, part from my septum set and others taken from the regular stock of instrument houses.

The operation is not, as suggested, one that is rarely called for; on the contrary, it is fully as useful as the submucous resection and I find it a simply indispensable procedure. It has displaced for me the unreliable galvano-cautery with its temporary half results, for which it substitutes permanent relief from the nasal stoppage. The drawbacks also attending the complete ablation of the lower turbinate, such as scabbing and excessive dryness of the nostril, are done away with, for the moisture supplying function of the lower turbinate is preserved by the flap resection. It should indeed supplant the crude sawing, punching or shaving away of the entire turbinate still much in vogue, for these methods not only destroy the turbinate, but leave a bad stump, that is, the mucosa-periosteum retracts from the bone which projects beyond it and becomes covered with crusts, the removal of which may lead to severe bleeding which will not stop, and this bleeding may occur many days after the operation. In contra-distinction my flap smoothly covers the bone with healing by first intention.

Experience has shown me that the bismuth packing, which stays aseptic for a week or more, will stick until the vessels are safely closed, when it comes away easily, lubricated by mucus. I, too, formerly tried to get the packing out in the shortest possible time and thought it an achievement to have it out in twenty-four hours. A few obstinate bleedings however showed me it is best to wait with the last strips, those that lie in contact with the wound line, until they are willing to slip out, and this is usually about the fourth day. The retention of these few strips does no harm, for the naris should not be used for breathing until the tenth day at the earliest, for it takes until the fourteenth day for reformation of the epithelium, and until it is reformed there is apt to be scabbing if the nostril be used for breathing, while the dust infects and irritates the naris. I therefore always keep it closed by having the patient keep a small ball of cotton in

the external nostril until about the fourteenth day.

In regard to Dr. Bernstein's questions I think he will find the indications for the operation in the text of my paper. In respect to nasal operations upon syphilitics, while it is a good rule to avoid them, I agree with Dr. Bernstein that I have seen no bad results from their performance.

RHINITIS—ACUTE AND CHRONIC.*

DR. LOUIS J. GOUX, M.D.
DETROIT, MICH.

Coryza or rhinitis seems to be a concomitant symptom or advance guard of most infectious diseases as well as under other conditions enjoying a separate entity with no relationship to other pathological conditions. In other words, it may exist alone as an acute or chronic condition or it may be a local manifestation of general diseases, infectious fevers, or, as is so well known, may depend entirely upon some neuroses for its origin. Briefly enumerated we have acute rhinitis associated with such diseases as measles, scarlet fever, diphtheria, epidemic influenza, articular rheumatism, erysipelas, diabetes mellitus, auto-intoxications etc. Acute rhinitis may have its origin in the imbalance of the vasomotor nervous system due to the presence of toxins in the blood or to other dyscrasia. It is a question whether micro-organisms alone ever primarily give rise to simple acute rhinitis and it is still a debatable point whether other etiological factors can result in rhinitis without the influence of micro-organisms.

Whatever may be the etiology the symptoms show but little variation except in degree of virulence and duration of some of the stages. Diphtherie or membranous rhinitis characterized by the presence of a membrane affording the only marked departure from the above rule.

As is well known simple rhinitis usually follows some indiscretion in the matter of being properly clothed when the body is exposed to sudden chilling or it may be easily induced by poor or insufficient food. In other words some devitalizing influence is the pre-disposing cause. The preventive for this form of rhinitis lies in sufficient nutritious food taken at frequent intervals to maintain a normal resistance to the devitalizing effect of sudden or unexpected exposure. The matter of clothing plays an important role. The underclothing should be capable of absorbing the normal bodily moisture as well as possessing the quality of being a non-conductor of bodily heat. The outer garments

play an important part and should be suited to the atmospheric conditions. Cold baths either by sponging or plunge tend to raise the resistance to cold and should be advised in cases showing a weakness in this direction.

SYMPTOMS.

For convenience, the symptoms of acute rhinitis are divided into three groups as follows:

First stage or onset: subjective symptoms are sense of dryness or burning in the nose with conjunctival irritation, feeling of malaise and chilly sensations. Objectively, nasal cavities appear abnormally dry, mucous membrane hyperemic but not fully turgescient. Temperature ranges from 100 to 103. Headache may be present with sense of fullness between the eyes. This stage is of but a few hours' duration.

Second stage: This stage is characterized by increasing turgescence of mucous membrane and serous discharge. If the ostei to the accessory sinuses are patent the headache and sense of fullness usually subside during this stage. However, should the accessory ostei be obstructed by a deflected septum or enlarged middle turbinate the pain and sense of fullness would be correspondingly increased on that side.

Third stage: This stage is characterized by a muco-purulent or purulent discharge with a decline of the temperature. Headache and sense of fullness usually disappear in this stage providing there is no sinus involvement. Should the sinuses be involved and the ostei be obstructed the headache and pressure symptoms are correspondingly pronounced. Dizziness and vertigo may accompany the sinusitis and in this event the accessory sinus complication may require more strenuous attention than the primary rhinitis.

Prognosis.—Duration of simple acute rhinitis is from a few days to three weeks depending upon the patient's natural resistance and treatment employed. Duration of those cases of rhinitis due to constitutional dyscrasia will naturally depend upon the amenability of such cases to constitutional treatment. For instance in diabetic rhinitis the variation of symptoms will depend upon the percentage of sugar in the urine.

TREATMENT.

Treatment consists of: 1. The establishment of drainage and ventilation of the nasal accessory chambers. 2. The establishment of the tonicity of the vasomotor nervous system. 3. The promotion of the elimination of the bacteria by the ventilation and drainage of the

*Read before Section on Ophthalmology and Oto-Laryngology M.S.M.S. 49th Annual Meeting, Lansing Sept. 10, 1914.

nose and sinuses. Naturally one must first ascertain the predisposing and the etiologic factors. Obstructive lesions should be treated with cocaine, adrenalin etc. that the maximum ventilation and drainage may be obtained. Lack of ventilation and the presence of retained secretions expose the patient to sinus troubles and tend to perpetuate the inflammation. Removal of the obstruction is better left to a time when the parts have regained their normal tonicity. Promoting the tonicity of the vasomotor system is a very important factor in the treatment. This can best be accomplished by rest, preferably in bed and the administration of such remedies as will tend to relax the peripheral circulation. The writer has not outgrown the practice of a thorough diaphoresis in the early stage, providing there are no contra-indications. An alcohol rub should follow the diaphoresis and it has a general tonic effect in any stage of the disease.

The above will abort many cases of coryza and cannot be regarded as empirical, a criticism to which much of our nasal treatment is exposed. The diaphoresis means an accelerated circulation which in turn means increased resistance to the invading hosts of micro-organisms. This increased resistance is due to the maintenance of the normal opsonic index of the blood which, according to Wright, is essential before phagocytosis or the destruction of the bacteria can be accomplished.

Chronic rhinitis is a condition which we approach from an entirely different angle than we do simple acute rhinitis. While we recognize that some of the acute exacerbation of this disease may parallel acute rhinitis in its symptoms the history at once puts us on our guard. The history of repeated attacks of coryza, the patient's complaint of a continuous stiffness or cold in the head tells us that we are probably dealing with some intranasal deformity. Alternating right and left obstruction always suggests turgescence or hypertrophy of one or more of the turbinate bodies. Constant unilateral with occasional bilateral obstruction suggests septum deformity. Continued bilateral obstruction with exacerbations in damp weather suggests polypi while persistent unvarying nasal obstruction suggests adenoids. The writer's experience is that most cases of hypertrophy or hyperplasia of the turbinates come from repeated and neglected cases of coryza.

Chronic turgescient rhinitis is symptomatically the same as that form due to hypertrophy or hyperplasia. Objectively the turbinates present a swollen appearance easily indented by

the probe and subject to great shrinkage when cocaine or adrenalin is used. If the inflammation continues, a true hypertrophy of the tissues takes place on account of the increased nutrition from the large blood supply.

A true hyperplasia differs from hypertrophy in its causation and morbid anatomy. Prolonged mild irritation from the sinus secretions is supposed to be the cause of the hyperplasia while negative air pressure due to a deflected septum may cause the turgescient rhinitis with the subsequent hypertrophy. Structurally in hyperplasia we have an increase in the number of tissue cells, whereas in hypertrophy there is an increase in the size of the cells from over nutrition. Nasal stenosis may be due to a deviation of the septum anteriorly. With each descent of the diaphragm the air is rarefied behind the obstruction and with this negative air pressure there results a venous congestion or turgescence of the turbinate bodies. If in conjunction with the turgescence of the turbinates there is associated an obstruction in the region of the middle turbinate the retained secretions undergo decomposition producing a prolonged low grade inflammation or irritation resulting in hyperplasia of the turbinal bodies. Irritating secretions from the accessory sinuses are also capable of exciting hyperplasia of the turbinates.

Considering the etiology of chronic rhinitis the treatment is necessarily surgical and the election of the procedure will depend on the anatomical anomalies present. The object should be two-fold, removal of predisposing causes and relief of immediate symptoms.

The practice of actual cauterization has become obsolete because of the difficulty of controlling the destruction of tissue and the danger of complications that may develop later. Chemical cauterization is much safer but is objectionable because of the lack of permanency in its results. However, in cases where there is some valid objection to the use of the knife the chemical cautery serves a very good purpose.

Whatever operative measures are resorted to, patency of the nasal chambers with the elimination of the negative air pressure should be our objective. Spurs on the septum should be removed, the bevelled edge saw having proved most satisfactory in the hands of the writer. Submucous resection of the septum is now regarded as the only rational operation to correct deflections of the septum. That is not saying that all septum deflections must be corrected. Before the submucous operation became

so generally used the writer was getting good results by removing portions of the turbinate bodies and often in conjunction with this practice removing spurs and thickened portions of the septum. This practice is a much less formidable undertaking from either the standpoint of the operator or the patient and there is never any perforation to explain or apologize for. Resection is the operation of necessity in many cases, however, and especially in those cases characterized by pressure symptoms.

For turgescient rhinitis removal of some of the soft tissues with a sliver of bone from the lower edge of the inferior turbinate has proven satisfactory and permanent in its results. In hypertrophy of the lower turbinate the same operation is performed but a large piece of bone is removed that the normal patency of the nasal chambers may be restored. This same operation is employed to correct hyperplasia but in addition it may be necessary to remove a piece of the middle turbinate also. If there is accessory sinus involvement complicating the hyperplasia the surgical intervention must necessarily be extended to those parts before a cure can be expected.

SUMMARY.

While simple acute rhinitis is, in the large majority of cases, an innocent offender, its neglect by the patient often results in secondary infections of the accessory sinuses and the ear complications. It is such a common-place affection that patients usually ignore it until brought face to face with its possibilities. It is safe to say that if all cases of acute rhinitis were given proper treatment in the early stages there would result a marked decline in the demand for surgery of the accessory sinuses, middle ear and mastoid. There would also be much less of the chronic rhinitis which frequently has its origin in neglected cases of the acute form. In other words control the early rhinitis and the patient escapes most of the painful and persistent sequelae which are so common in neglected cases. Preventive medicine constitutes the highest degree of efficiency in our profession and as rhinologists we have a large responsibility in educating our patients and the general practitioners in the matter of safeguarding themselves against the ravages of this supposedly commonplace disease.

Regarding the management of these acute cases a word of caution with reference to the use of the so-called rhinitis tablets may not be out of place. First, I would advise against

their indiscriminate use in all cases. If used at all, they should be combined with some drug having a cathartic action for, as is so well known, drugs cannot be administered which will have a selective action upon the nasal mucosa only. The therapeutic effect of morphia for instance is the same upon the mucous of the bowel as in the nose or throat. Free elimination through the bowel is necessary in these cases and must not be inhibited by drugs of this nature for the transitory effect in the nose or throat.

As stated above if used they must be combined with drugs to insure free catharsis. Furthermore, the tablets of this nature should not be administered beyond the first few days of the cold. Keeping the nasal mucosa shrunken up by topical and antiseptic applications is the safest and most efficient means of controlling this disease.

DISCUSSION.

DR. B. N. COLVER, Battle Creek: I am especially interested in two or three points in relation to Dr. Goux's paper. It seems to me that this subject is one of great importance to every one.

First, the fact that the large majority of cases of simple rhinitis will recover with home treatment or no treatment has lead the average individual to regard these "common colds" as insignificant ailments. The possibility, however, of unusual and serious complications, as for example sinusitis, arising in any case, should lead the profession to teach the people the importance of thorough care of every cold and thus prevent the large number of immediate and remote consequences of neglected rhinitis.

Again the statement of the essayist as to the importance of early treatment and its efficacy as compared to treatment begun late, is well worth emphasizing. If a cold is to be checked successfully it must be in the first stage. His suggestion of early rest in bed to restore the vaso-motor tone is especially good. This is difficult and well nigh impossible to bring about in the cases of business men or busy housewives. I am convinced, however, that a twenty-four hour rest in bed, with suitable treatment, if begun within the first twelve hours of the onset of the sneezing and serious discharge would result in a large proportion of abortive shortening of these infections.

In conclusion, I wish to mention the dangers from the ordinary pocket handkerchief. One often notices the careless handling of the handkerchief when a patient with a muco-purulent discharge clears his nasal passages just as he is seating himself in the office chair. He first unfolds and possibly shakes this soiled handkerchief, thus scattering the partially dried secretion in all directions. It seems to me that the lesson taught us by the immediate handling of tuberculous secretions should be adapted to the prophylactic handling of this highly infectious discharge.

DR. BIRD, Flint: I think that one point which

Dr. Goux made about the use of rhinitis tablets indiscriminately is very good. These cases usually go to the family physician who gives them some form of rhinitis tablets, perhaps accompanied by a prescription for them. These patients, the next time they have coryza are very apt to have this prescription refilled, may fail to follow it up with the catharsis, and a great deal of damage can be done. The ideal treatment of course in these cases would be to put them to bed and treat them as sick patients. This, we cannot always do, especially with a business man.

If he has chronic hypertrophy of turbinates or deflected septum he should be treated surgically. It is very rarely that we are called upon to do a radical operation on these cases if they are treated intelligently from the start.

I have enjoyed the paper very much and think it a very interesting subject.

DR. ABBOTT, Albion: To me the biggest word in surgery is asepsis, the next in drainage. If we can get perfect drainage, nature will do her work. In our treatment we must establish drainage. If we keep in mind the effect of drainage I think we have the key to the situation as to etiology and treatment.

DR. ROLLER, Grand Rapids: I want to say just a word in regard to the use of rhinitis tablets. I think physicians are to blame for the use of these tablets, for we have patients come to us and instead of taking the time to write them out a prescription we simply tell them to go and get a certain drug, assuming that they know how and for what purpose to use it.

I was very much impressed with the way the Doctor handled these cases. My method in acute cases nearly always is the use of cocaine and adrenalin and then an application of chromic acid. I think that after these cases have gone on with repeated attacks the only thing to do is something in the line of surgical work. These are the cases which interest us.

DR. GOUX, closing: I wish to thank you for the discussion. I think the last speaker struck the key note of the situation. I think most cases of rhinitis have some sinusitis and by establishing drainage you prevent further complications.

PHYSIOLOGICAL PHYSICS IN RELATION TO THE EYE AND EAR.*

AUSTIN F. BURDICK, M.D.

LANSING, MICH.

Physiological chemistry has a familiar sound but physiological physics seems rather strange. Yet why not? Has not the medical profession been seeking answers to her numerous problems unceasingly, and untiringly in the fields of chemistry and bacteriology, all of which efforts have brought forth fruit of such magnitude that its good can never be known or measured? Nevertheless the field of physics should be investigated just as assiduously, lest perchance

some equally useful knowledge hidden there should be overlooked.

It is therefore my purpose to bring to your attention, a few facts along this line in the hope of stimulating further investigation, and, if possible, to point the way toward the solution of a few of the perplexing problems that still confront us.

High blood pressure seems to be a popular subject in these days, especially among the insurance companies, and is quite generally recognized as accompanying many grave conditions and serious diseases. Many theories have been advanced as to its cause, from the eating of meat, to old age, and sclerosed arteries. These reasons seem too inadequate to answer all the conditions involved, so I am going to apply a law or two of physics and see if it does not get us a little nearer to the truth. One might say that such a subject would have no place in the discussions of a body of specialists, but I hope to show that we are more concerned with it than is the general practitioner.

It is therefore with high blood pressure, its causes, and its effects, with special reference to the head, that this paper will largely deal.

It becomes necessary now to lay down a few fundamental facts as a foundation upon which to build the superstructure to follow. In this foundation we find the laws of physics to suit our purpose best. These laws operate in the human body as relentlessly as they do in the world about us. In other words nature's laws are the same everywhere or they would not be laws. In the years past we have been digging deep into the mysteries of the laws of chemistry and bacteriology and applying them to the phenomena encountered in the human organism, with wonderful results, but for some unaccountable reason the laws of physics, which are equally powerful and which must be reckoned with, whether we recognize them or not, have been almost entirely overlooked, or worse yet, utterly ignored.

The laws of physics with which we have to deal are the laws of fluids. Blood is a fluid and as such is subject to the laws governing fluids. These laws are briefly, that fluids under confinement exert pressure equally in all directions and that fluids are practically non-compressible, that is, they cannot, except very slightly, be made to occupy a smaller space. This is the principal back of the powerful hydraulic apparatus.

Fluid confined is hard, and presses with as much force as though it were wood or iron.

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If you don't believe it, let some one strike you over the head with a bag full of water and see if it doesn't hurt as much as though they struck you with a club.

Blood in its flow through the skull and brain has many more opportunities to be confined, or its free flow interfered with, than in any other part of the body. The skull is a firm non-yielding receptacle containing the most highly organized and important part of the central nervous system.

In the infant and young adult the sutures are not firmly united, giving some small opportunity for expansion in case of need. This acts somewhat in the nature of a safety valve for the high spirits of the youth but is denied the old man whose cranial sutures have become firmly ankylosed.

We have the blood entering the cranium principally by three routes—the carotid, the vertebral and the middle meningeal, the first and last entering through small bony foramina, the carotid opening being, in addition, very tortuous. The vertebral also has a rather devious course, winding around the cervical vertebra before entering the foramen magnum in front of the pons, joining with its fellow of the opposite side to form the basilar artery. The bulk of the blood in the cranium finds its exit through the bulb of the internal jugular while the rest passes out through the basilar veins and a few emissary veins.

Inside the skull we have the usual close association of the arteries, veins and nerves. But in addition it is necessary to note that the arteries are confined many times in bony walls, or compelled to pass through narrow, constricted bony openings. We must note also that there are numerous plexuses of both arteries and veins, but above all that there are large venous channels, the sinuses, with more or less flaccid, non-muscular walls, containing no valves.

These points of entrance and exit of the blood stream in the external skull wall, as well as the foramina inside the skull, act as dams or points of constriction under certain conditions, which interfere with the free flow of blood. When this takes place the blood vessels behind these points of constriction, enlarge and assume a dilated or aneurysmal shape, which press upon neighboring structures with more or less disastrous results. The blood in these dilated blood vessels is confined and therefore hard and consequently presses upon soft nervous tissues with as much force as would a splinter of bone.

To be a bit more explicit it may be well to run over the main points concerning the blood supply of the brain, showing in as few words as possible the relation of these blood vessels to the brain and nerve structures.

The carotid enters through a tortuous canal in the petrous portion of the temporal bone, to form, immediately upon entrance, the circle of Willis at the base of the brain, surrounding the pituitary body. It gives off the ophthalmic, the anterior cerebral, which joins its fellow forward, by the short anterior communicating; the middle cerebral and the posterior cerebral joins with its fellow by the posterior communicating. Posteriorly the circle of Willis receives the basilar artery, which before becoming part of the circle gives off the superior cerebellar artery, and the anterior inferior cerebellar artery, besides a number of smaller transverse arteries.

The basilar receives its supply from the large vertebral artery and the small anterior and posterior spinal arteries. This briefly then is the arterial blood supply of the brain. Now a few words as to their relation to the brain and nerves.

The ophthalmic artery passes forward and enters the orbit through the optical foramen lying between the optic and the oculomotor nerves.

The anterior cerebral runs forward between the optic and olfactory nerves to reach the longitudinal fissure.

The middle cerebral, the largest branch of the internal carotid runs outwardly deeply within the fissure of Sylvius and supplies the motor area of the brain. It gives off branches to the caudate and lenticular nuclei, the internal capsule, the optic thalamus and the surface of the brain. The branch to the caudate and lenticular nucleus is called by Charcot the artery of cerebral hemorrhage.

The posterior communicating runs backward parallel to and on the inner side of the oculomotor nerve to join the posterior cerebral artery. The posterior cerebral arteries, the two terminal branches of the basilar, wind around the crura cerebri, and, running parallel with the superior cerebellar from which they are separated by the oculomotor nerves, reach the inner surface of the posterior part of the cerebrum.

Like the anterior and middle cerebral the posterior cerebral gives off cortical and central branches.

It is interesting to note that the cortical and central branches of the arteries of the brain do

not anastomose with each other and therefore form two independent systems.

The cortical branches, however, anastomose somewhat with their fellows of the opposite side but seldom sufficiently to nourish a portion of the brain from which the blood current, through the main artery supplying it, has been cut off. In other words the cortical arteries differ from the vessels of the upper and lower extremity in not being able to establish a collateral circulation which will perform the office of the principal vessel in the event of its being seriously disabled. In this respect they resemble the vessels of the lungs, kidneys and retina.

The central branches do not anastomose at all, therefore obstruction of one of the chief vessels of the brain, or any interference with a free flow of blood through it, will result in softening and degeneration of the regions supplied by its central branches, while not so materially affecting the regions supplied by the cortical branches.

Running on each side of and almost parallel with the basilar artery are the sixth or abducent nerves.

The internal auditory arteries, one on each side, spring from the basilar artery, and may arise from the transverse arteries. Each accompanies the corresponding auditory nerve into the internal auditory meatus where it runs between the facial and auditory nerves, and, reaching the bottom of the meatus passes into the internal ear. This artery you will note runs a fairly long course through a bony canal between two very important nerves. It is this relationship plus the laws of fluids that explains the cause of many cases of nerve deafness, throbbing in the ears, tinnitus, etc., as far as the auditory nerve is concerned, and many cases of facial paralysis, as far as the seventh nerve is concerned. The two veins which drain the internal ear follow the same course as the artery and one empties into the internal jugular, while the other empties into the superior petrosal sinus.

The middle meningeal enters the skull through the foramen spinosum and spreads out anteriorly and posteriorly in the dura, over the motor area of the brain.

As for the veins we have large cavernous plexuses and large loose sinuses which nearly all eventually drain into the jugular bulb and then into the internal jugular.

In the orbit there is a perfect net work or mass of blood vessels comprised of the numerous branches of the ophthalmic artery and vein.

The list consists chiefly of the lacrymal, anterior and posterior ethmoid, supraorbital, retinal, ciliary, muscular, palpebral, nasal and frontal. In passing, I will say that in my opinion it is the dilatation of this mass of blood vessels which causes the exophthalmous or exophthalmic goitre.

We have now a rather comprehensive general view of the more important blood vessels in the cranium and their relationship to the brain and cranial nerves.

It is obvious that, if you grant my premise that it is possible for certain conditions to exist which would cause any of these blood vessels to become engorged or dilated, the manifestations resulting would depend entirely upon the set of blood vessels involved and the nerve or brain center affected.

This simple statement opens up a field so vast that, as the minister says, there is a sermon in every syllable of it. Time and place forbid a full and free discussion, but let us examine briefly a few points in this connection.

Pain is always due to pressure upon a nerve, whether the pressure be due to engorged blood vessels, tumors, bony walls, or exudates from inflammatory processes. The rule is always to relieve tension when possible. Here we have then a clue to the various headaches, neuralgias, etc. Considering only an ordinary headache at this time: what is it when you get that pain in the forehead over one or both eyes? Nothing more or less than dilatation of the supraorbital artery pressing the supraorbital nerve against the edge of the supraorbital foramina. Why can people, lay people, rub a headache away? Because they strip the blood along exactly on the same principal that milk is stripped from the teat of a cow. When sufficient stripping has taken place the headache is gone, for the time being, at least, perhaps to return again if the cause of the engorgement still continues or if the engorgement has not been fully relieved. For the same reason hot and cold compresses relieve certain headaches, because they relieve the vaso engorgement. Headaches form a whole subject in themselves, but this much in passing.

If pressure involves motor areas we of course will get motor disturbances; if sensory, sensory disturbances. If motor areas or nerves are involved, we will get spasms or contractions or paralysis or paresis of the muscles supplied by these centers. If the sympathetic system be involved, there will be vaso-motor disturbances. If sensory areas or nerves are involved, we will

get areas of anesthesia or hyperesthesia, areas of heat and cold, sensations of pain from a dull ache to sharp, shooting or lancinating pains.

May not many of the symptoms so glibly attributed to enlargement of the pituitary body really be due to engorgement of the blood vessels of the cavernous sinus and circle of Willis surrounding it? Many, many other questions arise for discussion but time prohibits their introduction now.

I must hasten on. What are some of the conditions which would cause blood to flow into the skull faster than it flows out? When this occurs, pressure, blood pressure, rises until the outgo equals the intake. This must necessarily be so. As long as the outgo does not equal the intake, the pressure continues to rise and disturbances resulting therefrom are cumulating one after the other until conditions can become possible, so serious as to be almost unbelievable.

The blood is a life giving stream and a sewer. It brings food and nourishment while it also carries away poisons and the waste products of metabolism. Intense activity demands blood to supply food and repair, and to get the ashes resulting from that activity, out of the way. So wherever there is intense activity, there, normally, is a call for blood to flow rapidly and freely.

Eye strain is one of the commonest forms of intense activity. Normal use entails tremendous activity, appreciated by few, but modern times and customs have augmented that activity many fold. A few things on the list are reading, sewing, studying, shopping, theaters, auto riding, traveling on swiftly moving trains, the movies etc., etc.

A second form of activity which produces cerebral engorgement is intense mental effort. This may manifest itself in the form of legitimate, but none the less active, planning, scheming, visualizing etc., or in the form of worry and excitement, fear or anger.

A third cause is acute and chronic conditions of the mucous membranes of the nose and respiratory passages generally, including all the septic and nonseptic hyperplasias and accessory sinus involvements. There being a close association on account of the ethmoid, nasal and other communicating blood vessels involved.

It is interesting to note that in many of the diseases, which are accounted for by the general unsatisfactory blanket term nervousness, the etiology is closely associated with one or more of the factors above named. Particularly is this

true in old people whose vitality is growing weak, eyestrain greater, and arteries old.

When the blood pressure is raised for any considerable time there are not only disturbances due to pressure upon nerves and nerve centers but there is frequently back pressure upon the heart, causing fluttering and functional disturbances usually attributed to nervousness. This continued long enough, can, and does, result in actual organic trouble from valvular lesions to dilatation of the heart.

It is manifestly impossible in the time allotted to me to more than skim the surface so I will close now by a brief recapitulation of the items gone over so that they may stand out more clearly.

The blood is a fluid subject to the laws of fluids.

There is a perfect net work of blood vessels in the skull, which forms a firm non-yielding enclosure.

This blood supply enters through narrow and limited openings and emerges through similar channels.

Various activities cause blood to flow into the skull faster than it flows out. Pressure results.

Disturbances and manifestations resulting vary according to blood vessels and nerve centers involved.

Great variety of such disturbances.

Of special interest to us is the internal auditory arteries and veins passing through a bony canal the seventh and eighth nerves, providing a cause for many cases of nerve deafness, throbbing and roaring in ears, and other forms of tinnitus, resulting from involvement of the eighth nerve and many cases of facial paralysis resulting from involvement on the seventh nerve.

Pain and paralysis in various parts of the body, particularly neuralgia, neuritis and certain forms of pain wrongly called rheumatism, pain in the back of the neck and between the shoulders which is so frequently called neuritis or rheumatism is nearly always due to the causes enumerated.

Clinically I have demonstrated over and over again the truth of the statements embodied in this paper, from facial paralysis and hemiplegia to total nerve deafness; more or less complete recovery having been obtained by the application of these principles.

CONSERVATION OF VISION.*

EVERARD W. E. PATTERSON, M.D.

GRAND RAPIDS, MICH.

In presenting a paper on this subject, it is with an earnest desire to enlist a broader co-operation from the profession in the noble work of preventing partial and total blindness.

In order to finish in the allotted time it will be necessary to direct my efforts to only some phases of this broad subject. Volumes might be written on its subdivisions, but I will try to emphasize only those phases which seem pertinent to this occasion.

In the United States, according to the most reliable statistics, about one-tenth of the blindness is due to ophthalmia neonatorum. It is claimed there are over 118,000 blind people in the United States. Of these 10 per cent. are blind from infancy due to one preventable disease.

In considering the subject of conservation of vision, we must not confine our efforts to the 12,000 cases due to one cause or neglect, but to the probability that a much larger per cent. of the 118,000 are blind from causes which can eventually be listed as preventable.

Conservation of vision considers total or partial impairment due to infections, constitutional diseases, injuries, occupational diseases or hazards, furnishing of glasses by the incompetent, physiological arrangement of school rooms, workshops, offices, stores, etc., prophylactic measures at birth and improper knowledge concerning the care of the eyes.

In some sections, trachoma is an all important disease, while in other regions, thanks to the efficiency of the Marine Hospital Service at various ports of entry the disease scarcely exists.

Among some people glaucoma is much more common than elsewhere and the newer operations of sclerotomy will be helpful.

Syphilis, the cause of 25 per cent of impaired vision, is more effectively treated than ever before. It may attack any of the structures of the eye and produce keratitis, iritis, cyclitis, choroiditis, retinitis, and optic atrophy.

Today it is a preventable cause of blindness. When the applicants for a marriage license can show a negative Wassermann test, properly made and properly controlled, the danger of congenital lues of the eyes of children born of

that union, will be practically nil. Education will eventually solve the question of syphilis. The poor immigrant with trachoma is turned back at our portal; the leper is hunted like a wild animal; the tubercular patient is looked upon askance, but the syphilitic young man walks our streets, eats at our table, drinks from our glasses, swims in our public baths, smokes our pipes and marries our daughters. The world is his playground; the innocent are his victims and the next generation educates his blind and deaf and dumb children.

Too frequently a patient with wood alcohol atrophy comes with a record of years of consecutive labor in the finishing room. Machinists, blacksmiths, foundrymen get particles of iron and emery in their eyes which often could be avoided by the use of goggles. These causes in particular are in nearly every case further aggravated by some fellow workman attempting to remove the foreign body with a jackknife or other dirty instruments thereby enhancing the danger of sight. Every eye specialist finds many occupational causes for danger to vision varying with the industries of his locality.

The problem of lighting in its relation to the efficiency of the eye is receiving the attention of the lighting engineers. For the kind of distribution effects given by the majority of the lighting systems now in use, too much light for the welfare of the eye is being employed. Under the systems for direct lighting the eye loses greatly in efficiency as the result of three or four hours' work. In this time it loses practically nothing under daylight and little more under good systems of indirect lighting. Churches, theatres, stores and public buildings are improving in this important factor in conserving eyesight, while the alarming increase in moving picture shows is a menace not to be considered lightly.

Too much responsibility is given others than the medical profession in fitting glasses. The oculist often is called upon to care for a patient suffering from glaucoma after the patient has exhausted the skill of several glass fitters. The same is true in so-called cases of myopia which under proper treatment are often proven to have normal or even far-sighted eyes. Myopia is a cause of 5 per cent. of blindness.

In the year following the enactment of Michigan's new law for the care of the eyes of the new born, there has been an alarming neglect in observing its requirements. In Grand Rapids, a city of 120,000, very few cases of ophthalmia neonatorum have been reported and in

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every case reported, the law has been violated. In some events the birth had not been reported. In all cases the prophylaxis prescribed by the State Board of Health had not been used at birth and the attending physicians had failed to report *ophthalmia neonatorum* to the health officer. These cases came under the observation of the specialists before reports were made.

A strong effort should be made to make people understand the law and comply with it.

The doctor either obeys the law or disobeys the law. It is not his office to discuss other methods of prophylaxis. If he does not use the remedy ordered by the State Board of Health, he should be punished.

In this connection the question of the midwife comes forcibly to our attention. The midwife has no legal status in our state. She is not registered, usually uneducated, and incompetent. Chares Edward Zeiglar of the University of Pittsburg, fears that the great danger lies in the possibility of attempting to educate the midwife and in licensing her to practice midwifery, giving her a legal status which later cannot, perhaps, be altered. If she once becomes a fixed element in our social and economic system, as she now is in the British Isles and on the continent, we may never be able to get rid of her. She is a menace to the health of the community, an unnecessarily evil and a nuisance. He states, "I am unalterably and uncompromisingly opposed to any plan which seeks to give her a permanent place in the practice of medicine."

It is true that 80 per cent. of the European children are born under the wholesome supervision of the women. But these women have had a thorough and practical training in the state institutions and practice under carefully framed and rigidly enforced state regulations, any fracture of which results in either fine, imprisonment or revocation of license.

The three channels through which the conserving eyesight problem may be solved are education, legislation, and publicity.

The public is already educated in care of the eyes of school children in the larger cities. Teachers are anxious to favor children with defective sight in helping them to have all advantages possible. Tests of school children are made and those of defective vision are referred to the oculist. In this the boards of education are spreading knowledge which tends to conserve vision.

Public welfare work is doing much in educating and gathering statistics concerning blind-

ness. Societies for prevention of blindness have been organized in eleven states, these working in co-operation with social settlement workers, organized charities, social workers of dispensaries and hospitals, and such organizations can render great assistance.

The Michigan Association of Workers for the Blind, encourages the organization of local associations. The first local association, the Grand Rapids Workers for the Blind, was organized in October, 1913.

As to legislations, some laws directly and indirectly have to do with conservation of vision.

Michigan's Compensation Law has resulted in better care to the injured. It has attracted attention to their hazards. In considerable measure through its workings it conserves vision.

The present laws of Michigan allow the non-medical refractionists to fit glasses for near sightedness (or myopia) and for patients where glasses fail to produce normal vision. A change in the law which would make it a misdemeanor for any but a physician to handle—such cases would bring these patients under medical care earlier. It would be a great advancement.

The Michigan legislation in 1913 passed a law governing cases of *ophthalmia neonatorum*. It reads:

"Section 1. It shall be the duty of the State Board of Health to officially name and approve a prophylaxis, to be used in treating the eyes of newly born infants, and it shall be the duty of the Board to publish instructions for using the same.

"Section 2. It shall be the duty of any physician, nurse or midwife who shall assist and be in charge at the birth of any infant or have care of the same after birth, to treat the eyes of the infant with a prophylaxis approved by the State Board of Health; and such treatment shall be given as soon as practicable after the birth of the infant and always within one hour; and if any redness, swelling, inflammation or gathering of pus shall appear in the eyes of such infant or upon the lids or about the eyes, within two weeks after birth, then any nurse, midwife or other person having care of the infant, shall report the same to some competent practicing physician within six hours of its discovery.

"Section 3. Any failure to comply with the provisions of Section 2 of this act shall be punished by a fine not to exceed one hundred dollars or imprisonment in the county jail not to exceed six months, or both such fine and imprisonment in the discretion of the court."

By another enactment the birth certificate

must bear the statement that the infant's eyes were treated as required by the statute first cited.

Complying with Section 1, Act. No. 123, the State Board of Health officially names and approves as a prophylaxis to be used in treating the eyes of newly born infants, 2 per cent. silver nitrate solution. The eyes are to be first washed with physiological salt solution or with boric acid solution, after which one drop of 2 per cent. silver nitrate solution is to be instilled in each eye.

This act took effect August 14, 1913.

Publicity is the best method in getting legislation or enforcement of laws.

At the meeting of the Michigan Association of Workers for the Blind, held in Saginaw last month, definite action was taken in several instances which are encouraging. Protest was made against the use of old forms of post cards by local health officers which do not include *ophthalmia neonatorum* in the lists of reportable diseases; also against the use of old birth certificate forms which do not provide for the physician's statement that the infant's eyes were tested as required by the statute.

Efforts will be made to fix by legislation degrees of blindness and compensation accordingly. It is recognized that partial blindness in many cases equals total blindness as far as employment is concerned.

One result of our present compensation law is the increased hazard assumed by the employer if the employee has impaired vision. This often makes employment as impossible as if blindness were complete. An employee with impaired vision in one eye never receives an injury in any but the good eye. These men should only work where there is no hazard to sight.

It is conceded by experienced social workers that publicity can best be gained by insisting upon enforcement of law. Nothing will attract attention to the neglected *ophthalmia neonatorum* cases like prosecution of the offender, whether it be midwife or physician.

How terrible the thought that among the blind people to to-day (individuals that you or I may know) so many are suffering from the ignorance of some doctor who was confident there could be no gonorrheal infection at childbirth, forgetting that *ophthalmia neonatorum* is not alone due to gonococci. Only 60 per cent. is due to this cause. There is nothing more pitiful than blindness in any form. While we should lend our assistance in reducing any and all causes of blindness, every physician must

comply with the law governing the care of the eyes of the new born. He should not be afraid that he may give offense to a friend or patient. He can reassure them that *ophthalmia neonatorum* is not always due to the same infection.

The broadest co-operation on the part of physicians and laity, boards of health, social welfare workers, etc., is necessary to prevent the causes of blindness.

DISCUSSION.

DR. HUIZINGA, Grand Rapids: Answering the question why not more is done in the way of regular systematical medical examinations of school children, permit me to speak for Kent county and Grand Rapids.

In Grand Rapids we have a Christian Science Church which is opposed to these systematic examinations of school children, and owing to their political power they have been able to place one of their leading members on the school board. This member has consistently opposed such examinations and used her political influence to thwart the work. School nurses must be commended for doing splendid work and are constantly calling the attention of the parents to the fact that there is trouble or defect in the eyes, ears, noses or throats as well as teeth of their children.

The opposition comes from the people, of course, who think all of these things are fads and as a result of these faddish opinions, as they are called, nothing is done. In Kent county, I have gone into a couple of the parochial schools and made systematic examinations of all the children there and sent written reports of these examinations to the principals. These, in turn notified the parents saying that their child was afflicted with such and such a trouble and asking them to please see some specialist as soon as possible. These were not signed by the physician but by the teacher. The result was simply this; that in one school not one sixth of the children examined and found having serious affections were ever brought to specialists or given any treatment.

The work of which Dr. Patterson has spoken is going to result in great good. It is to be hoped that all the members will take an active part in it. Publicity after all is important and will finally settle this question. When the people properly understand that the future interests of their children are largely determined by the physical condition of important sense organs during their training period, they will demand such attention as they now refuse through ignorance.

A third factor in this problem is the lack of interest on the part of a very considerable number of physicians, especially among the older men in our profession. Many of these still fail to recognize the importance of pharyngeal obstruction and infections, of impaired sight and hearing and that many neuroses are the result of unnatural and pathological conditions in these organs.

The specialists have urged these matters upon the attention of the profession so persistently that the subject has become trite and yet, a very considerable proportion of our medical men pay more attention

to the immoral funny cartoons of the Sunday newspaper than they do to these important questions.

When the profession becomes thoroughly awake, the laity will respond as they always do when properly informed and the school authorities will be only too glad to assist and co-operate in every way in their power.

DR. RICKER, Cadillac: Mr. Chairman, Gentlemen: It gives me a great deal of pleasure to know who Dr. Paterson is as I have never met the Doctor before and for that reason had no opportunity of learning the gist of his paper. I feel that it should be read before the medical section as they are the men who should have full meaning of such a paper, I say medical section because so many workmen come to eye specialists with some foreign particle in their eye which has probably been lodged there for as long as ten days unrecognized by the medical doctor and there is sometimes little possibility of saving the vision. The education of the people along this particular line is certainly bringing about the best results that can be accomplished in this work. The campaign is to educate the people along the line of conservation of vision.

I hope the legislature will pass a law making the systematic examination of school children compulsory at certain intervals.

The midwife, as the Doctor has said, has no occasion for using 2 per cent. solution of nitrate, because she has no right to. I do not think it good policy to educate her to do something which is contrary to the laws of our state.

We should examine all of the men who are employed in our factories, as a result of the liability law of the state of Michigan. I hold that every employe should be examined to know whether he has perfect vision when he goes to work. I hope that the doctors of the state of Michigan will co-operate with Dr. Parker and see that this work is taken up in every county of the state, that the people are educated and that the children are looked after, the vision protected; and in this way we will save the eyes of the children who will be the next generation and thus along this particular line, lessen the expense of caring for them in the schools for the blind.

DR. CHAPMAN, Muskegon: Just a word concerning the school work. I do not understand why there is difficulty in getting this systematic examination in the schools, for this reason: In Muskegon schools we have had systematic examinations for four years; of eye, ear, nose and throat, from the first grade up and considerable of it has been done in the first grade and in the kindergarten. We have an organization known as the Medical Advisory Board of the Public Schools, consisting of three physicians. Two general practitioners—one male and one female, and one specialist who does eye, ear, nose and throat work alone. These are appointed by the school board and work on a small salary. A school nurse has assisted in doing this work for four years and we have no trouble of any kind. The results are excellent.

Where is the trouble in other cities? with the school board, physicians or with the people?

DR. C. H. BAKER: In my own locality effort has been made to have school examinations carried out systematically and periodically. It fails

continually and for the reason that every man felt that he was not getting paid for his work. A very large army is opposed to these examinations lead by a great general. This army is the general public and the leader, General Indifference. The only way I can see by which these examinations can be made general is to educate the general public along this line and have the state or city pay for it.

BACTERIOLOGY AND BACTERIA THERAPY OF THE UPPER AIR PASSAGES.*

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It is impossible in a short paper, designed to be part of a symposium, to cover this subject thoroughly. The attempt has been made to bring to the attention of the section salient, fundamental facts of bacteriology and immunity which underlie and influence bacterin therapy.

The morphology, life habits, and pathogenicity of many of the bacteria found in the upper air passages, are indefinitely known. Friedländer's pneumo bacillus, from which the bacillus muco catarrhalis is not clearly distinguished, is thought to be identical with the ozena bacillus of Lowenberg and Abel, and the etiological value in diseases of the air tract of one or both, is not determined. The micrococcus catarrhalis is generally considered by clinicians to be a causative agent in respiratory infections. This relationship has not been proven by laboratory workers, who consider this germ of doubtful etiologic importance. The organism is a common inhabitant of the respiratory tract. Its isolation is most difficult because of the complex mixture of organisms with which it always occurs. The bacillus fusiformis, associated with Vincent's angina, has not been proven the cause of that disease. There has been no artificial production of the Vincent's angina with fusiformis bacillus.

The influenza bacillus is most difficult to isolate. Reliable laboratory results seem to indicate that most influenzas are caused by the streptococci and may be treated with vaccines of the same. The etiologic importance of the influenza bacillus is not determined. The vaccine of pure bacillus influenza has not been, up to date, therapeutically successful.

The streptococcus, staphylococcus, pneumococcus may be very commonly cultivated from the mucous membrane of the upper air passages.

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It has been thought probable that only a limited number of strains of the pyogenic organisms are etiologically concerned in acute infections of the mucous membrane.

There is a group of organisms, the diphteroid group, upon which some workers have laid much emphasis, particularly upon one member of the group, the bacillus segmentosus of Cautley, in the causation of acute rhinitis. This organism has no standing or identity with American bacteriologists so far as the author can ascertain. The diplococcus rheumaticus closely allied in its morphological characteristics to the streptococci, cultivated from the tonsil, has some standing as a specific cause for rheumatism. The coccus erysipelatos is a member of the streptococci family and not a separate entity. The tubercle bacillus, spirochetæ pallida, and Klebs Loeffler are not infrequently concerned, while the parasites of actinomycoses and the Frisch bacillus causing rhinoscleroma, are rarely met.

The bacteriology of acute or chronic rhinitis, acute or chronic sinus infections, and tonsillitis, is not definitely established. The specific organisms of some of the infectious diseases, particularly the spirochetæ pallida and Klebs Loeffler, induce a pathological process in the air passages and afford a positive bacteriological cause for the ensuing disease.

In the application of bacterin therapy, autogenous stock and serobacterins are used. Serobacterins are preparations in which the bacteria are saturated with the corresponding specific antibodies. This saturation occurs by allowing the mixture of bacteria and immune serum to stand for twenty-four hours, during which time, it is claimed, the bacteria absorb the corresponding specific antibodies which the immune serum contains. Such preparations are standardized and sterilized. There is sufficient scientific foundation underlying serobacterins to interest the clinician in their use and the determination of their value. Up to date the chief source of our information concerning the serobacterins is the literature of the producers. The writer has not noticed any reports of sensitized autogenous bacterins. The danger of anaphylaxis should be borne in mind in the use of serobacterins.

The introduction of bacterin therapy marked a wonderful advance in the treatment of infections. To determine the germ cause of the disease and to administer to the patient the corresponding anti-bacterial substance, is a remarkable advance in accuracy of therapeutics.

It is the treating of the infection by directly combating the cause in contrast to the indirect supportive measures upon which the clinicians have heretofore chiefly relied.

It would appear from personal observation and from available literature, that clinicians have not been giving the interest and time to the scientific application of bacterin therapy that this method of treatment deserves. The reasons for this are probably various. The bacteriological cause of many diseases are undetermined. The processes of immunity are not definitely established. Much of the work in immunity and bacteriology in which bacterin therapy originated is new and difficult to understand. The expense of vaccines and bacteriological examinations are often prohibitive. Frequently it is impossible to get accurate laboratory technic. Moreover, we have been deluged with a supply of ready to use, inexpensive vaccines accompanied by full directions for their use and most encouraging reports of their successful application in almost every known pathological process.

In considering the etiologic role of any family of organisms, it is to be remembered that each family of bacteria has various members which exhibit variations in pathogenicity. Certain bacteria exist in many strains while other organisms are known to possess only single or few strains. This fundamental fact is of much importance in connection with the use of stock bacterins. Because most bacteria possess numerous strains, it is doubtful if many of the stock vaccine, can be expected to have any therapeutic value. That a potent stock vaccine, prepared with the most careful technic, of a certain strain of streptococci, will stimulate in the body into which it is injected, the antibodies specific to that strain, is incontrovertible. If the strain of streptococci causing the disease be different than the one used in the preparation of the bacterin, the vital forces of the patient have been needlessly taxed to elaborate antibodies which have no corresponding bacteria to attack. In the preparation of polyvalent stock vaccines, various strains of a bacterium are used. Such preparations represent an attempt to furnish the profession, in convenient, inexpensive form, the bacterin suspension which will directly combat the germ cause of the disease. There are many reasons why it is doubtful whether a stock vaccine can be expected to successfully furnish the potent, specific strains concerned in a given pathological process. The same bacterial strains vary in their virulence in

different environments and under different conditions. Stock vaccines, if at all desirable, must be prepared from strains of bacteria recently isolated from pathologic conditions in man, and not from those weakened by artificial cultivation for many generations or altered by animal passage.

Artificial typhoid immunization offers a brilliant demonstration of the power of a bacterin prepared from artificially cultivated bacteria to confer immunity. The fact which makes this possible is that the virulence of the typhoid germ for man is largely confined to one strain of the typhoid group. Baltimore, in 1912, experienced an epidemic of a serious tonsillitis complicated with adenitis, peritonitis, and septicemia. The bacteriologic examinations established that a pneumococcus was responsible for the epidemic. We have illustrated in that epidemic the fact that bacteria may assume new pathologic roles and the necessity for a bacteriologic examination if vaccines are to be given rationally.

Diplococcus of Neisser tend to exist in a single strain. Their collection in gonorrheal rheumatism is difficult.

In cases of staphylococcus infection, the use of a stock vaccine of aureus has been found successful, probably because the antibodies formed by the various strains of this organism are very closely related or identical. The pathogenicity of citreus, albus, cereus albus, and cereus flavus is doubtful. Citreus and albus are regarded as degenerated forms of the pigment producing strains. It is reasonable, therefore, to use fresh, properly prepared stock vaccine of the diplococcus of Neisser and staphylococcus aureus. The influenza, Neisser cocci, and tubercle bacilli are so slow in growing that autogenous bacterins are impracticable for immediate use, and frequently, from the location of the infection, impossible to obtain. For the treatment of infections with streptococci, only an autogenous bacterin is indicated, for the organism exhibits very many strains and variations. Tuberculin has gradually won its way as an aid in the therapeutics of certain classes of tuberculosis, notably, localized tubercular processes in joints and glands and in the more localized chronic cases of pulmonary tuberculosis.

Diplococcus rheumaticus, which has some standing as the specific cause of rheumatism, is a frequent inhabitant of the tonsillar crypts and is of much interest to the laryngologist. The work on this coccus done by Rosenow and pub-

lished by him in the *Journal of Infectious Diseases*, in 1912 and 1913, is important.

It is obvious that the keystone of bacterin therapy is that the germ or germs causing the disease in question shall be known. The use of bacterin therapy in cases in which the etiologic bacteria are unknown or guessed at, is open to criticism. Bacterin therapy is unscientific for the treatment of acute infections. After treatment with bacterins, immunity can be demonstrated in from ten to twelve days. The animal body requires that time to form anti bodies with which to fight the antigen introduced in the form of bacterin. From this it follows that a bacterin cannot be curative in a disease like acute coryza, even if the etiologic bacteria were determined, which, running an acute course, gives no time to build up a defending force of antibodies. The injection of specific serobacterins containing antibodies might prove efficient in acute cases. In this connection there is danger of anaphylaxis.

It is an essential point in bacterin therapy to keep a fresh supply of blood and lymph at point of infection. This has further hindered its application in many ear, nose and throat cases. In chronic sinus and suppurative ear cases there is a wall of granulation tissue and necrosed bone lining the infected cavities. The results of the bacterin injection must be unfavorably modified in proportion to the amount of necrosed bone and granulation tissue present. In acute infections which are likely to become chronic, whenever possible, bacterin therapy should be instituted promptly.

Imperfect technic and failure to heed the principles of immunity and of bacteriology underlying bacterin therapy, will not enable us to determine its value and limitations.

The writer noted in a review of recent literature in a journal of good standing, a report of a case of hay fever cured with a stock vaccine of micrococcus catarrhalis. The multiplicity of germs in the nasal passages, the technical difficulty of separating one germ, particularly one with which the characteristics of micrococcus catarrhalis the indefinite state of our pathogenicity of the micrococcus catarrhalis should be borne in mind in considering the value of such a report.

Bacterin therapy, properly used, marks a wonderful advance in accurate therapeutics of infections. Physicians should seek to accumulate clinical records which, in harmony with dependable laboratory findings, shall secure a

more accurate application of this important line of treatment. It is a natural and laudable impulse to employ every known measure in treating a disease to include suggested measures from which we may hope, if not reasonably expect results.

The writer recommends that an autogenous bacterin be employed as part of the routine treatment of acute suppurative otitis media to hasten the disappearance of the discharge and to prevent mastoid complications. In all acute otitis media cases which progress to paracentesis, it is the author's practice, at the time of the paracentesis, to obtain cultures for an autogenous vaccine. The experience of the author in this connection is illustrated in the following cases:

Mrs. A.—acute otitis media following an acute coryza—paracentesis—culture taken—predominating organisms pneumococcus and staphylococcus aureus. A vaccine containing thirty million pneumococci and 300 million staphylococci was prepared and administered in one cc. injections—the first injection three days after the paracentesis, the second four days later, and once a week thereafter. All constitutional and nose and throat therapy, free drainage and cleansing treatment of ear was done in addition to the bacterin treatment. The patient did not do very well, recovered slowly from the acute attack. The discharge continued and at the end of a month a second culture was taken which showed the same organisms as the first culture. A fresh vaccine was prepared and administered weekly in same dosage. At the end of six weeks, the discharge continuing, the patient was advised to have a mastoid operation, to which she consented. One week after mastoid operation vaccine injections were resumed weekly till healing of wound, which was completed in three weeks. The bacterin treatment, early and scientifically applied, in this case did not prevent the mastoid complication.

Mrs. B.—acute otitis media paracentesis. Vaccine prepared from culture taken at time of paracentesis. Vaccine contained 30 million pneumococci and 30 million streptococci to each cubic centimeter. Administered one cc. four days after paracentesis and one week later. Patient recovered so promptly that vaccine was used only twice. The spontaneous recovery seen in this case is so frequent an occurrence that one may well hesitate to insist that an autogenous vaccine should be made a routine procedure.

Mrs. C.—acute otitis media paracentesis. No culture taken. Discharge continued very abundant and some mastoid tenderness appeared. Cultures and smears taken on fifth day. Smears showed streptococci predominating. An autogenous vaccine was ordered and a stock vaccine of the streptococci used at once. Four days later the autogenous vaccine was begun. Patient recovered without a mastoid operation. The streptococci exhibit so many strains that it is doubtful if the stock vaccine injection had any influence on the course of the disease.

Four chronic suppurative otitis media cases have been treated with autogenous vaccine. One was cured—ear not discharging three years after treatment. Two were improved and one not improved. These cases were clinic cases in which the usual lines of treatment had been unsuccessful.

The following case demonstrates the necessity, if good work is to be done, for the oto-laryngologist to be informed and ready to apply bacterin therapy: Mrs. E., 43 years old. History of tonsillitis, quinsy and acute infectious arthritis for twenty-four years. Baths, osteopathy, scrums and salicylates had been used in treating her at various times. Tonsillectomy. Tonsils greatly hyperthrophied and inflamed. At time of tonsil operation was unable to use right foot and leg; the foot and knee were turned in with the toes bent down. Injections of polyvalent stock streptococcus vaccine were begun within a week and continued for ten weeks together with orthopedic correction. The improvement in the joints during this period was gratifying. The patient was able to walk for the first time in ten months ten days after the tonsillectomy. In this case a bacteriological examination of the deep portions of the tonsil crypts should have been made, cultures taken, and an autogenous vaccine prepared. An autogenous vaccine prepared from the tonsils should have been administered to this patient. The laryngologist should have an autogenous vaccine for immediate or future use, from all sinus and tonsil cases in which a metastatic infection is known or suspected, such as an endocarditis or an infectious arthritis.

Furunculosis of the external canal has been uniformly and successfully treated with a stock vaccine of staphylococcus pyogenes aureus, 600,000,000 to a dose. In recurrent cases patients are advised to have weekly injections for six to eight weeks.

Two chronic antrum cases which did not heal after all the usual surgical therapeutic meas-

ures, were apparently much benefitted by the administration of autogenous vaccines.

CONCLUSIONS.

1. Knowledge of bacteria producing pathological conditions of upper air passages is incomplete.

2. Serobacterins are on an experimental basis. Sound scientific foundation for their use. Combine the advantages of a passive immunity plus an active immunity.

3. Bacterin therapy indicated in treatment of sub-acute and chronic cases.

4. The specific etiologic bacterial strains must be determined before vaccine therapy can be rationally used.

5. Bacterins must be prepared with careful laboratory technic.

DISCUSSION.

DR. HUIZINGA, Grand Rapids: The question of vaccine therapy is just now entering a very practical stage. Any new method of treatment usually passes through three stages. First, the stage of enthusiasm and extravagant claims; second, the stage of reaction and loss of confidence; third, the practical stage when the true value of the method can be estimated from a sufficiently large experience, the extravagant claims toned down and confidence in its proper, therapeutic possibilities and limitations restored. The bacterial and serum method of treatment is entering into this third stage where we are beginning to have a proper appreciation of its value and limitations and have become a little more conservative than we were a few years ago.

I fully agree with the Doctor that these methods should not be used in acute conditions but limited to those of a more chronic nature. I had made some experiments along this line and it seems to me that in some cases I have had some very splendid results in conditions that otherwise are considered well nigh hopeless. Just to report one case that came to my office two years ago. A young man suffering from an aggravated case of atrophic rhinitis. I told him that I could not give him much relief. I explained the nature of his trouble and our limitation in being able to help him. I finally suggested that I should like to experiment with autogenous vaccine and see what it would do for him. Since the treatment was entirely experimental my services were offered free and he would pay the necessary expenses. He readily consented. The vaccine was prepared from pus taken from under the crusts from the neighborhood of the middle turbinate. Two hyperdermic injections were made each week with gradually increasing doses until the point of tolerance was reached. This treatment was kept up for ten weeks. At the end of the second week the patient began to report such improvement that he could notice a distinct reduction in the crust formation and his family and friends had noticed a distinct improvement in the lessening foulness of his breath. At the end of ten weeks the atrophy of the turbinates was still the same but the amount of discharge

and crust formation and foulness of breath has certainly improved 75 per cent. It is but fair to say that during this time no other treatment was permitted, not even a cleansing spray of Dobell. Since then, however, the other well known methods have been used and after two years his condition remains, not cured, but satisfactory improvement to him and his friends. I am well aware that it takes the reports of hundreds of cases to establish the value of any line of treatment. "One swallow does not make a summer," but "A straw may indicate the direction of the wind," so I believe that the conclusions reached in one case carefully studied and followed up will often be of greater value than the reports of hundreds of cases coming from many different sources of unknown scientific standing.

I have tried it in other cases and failed but this does not mean that it is not a success, I may not have had in the vaccine all the organisms that it should contain. Much work remains to be done in this region and while the difficulties to be overcome are greater than in other regions of the body, yet the possibilities in this field are far from hopeless. I feel free to recommend this for a thorough trial in connection with other well known forms of treatment.

This section is very much indebted to Dr. Odell for the very conservative and timely paper which she has prepared.

DR. SHURLEY: The problems of bacteriology and bacterin therapy are extremely interesting to all of us. There has been an enormous amount of literature prepared upon the different phases of bacterin therapy and there is a great deal in connection with it that is difficult to scientifically recognize or classify and we have necessarily three unknown quantities under consideration. The resistance of the patient, the variety of the micro organisms and the virulence of the micro organisms are the three quantities which are at work in this problem, consequently deductions must be more or less hazy and uncertain. It seems to me that an enormous amount of time is wasted on the report of one or two cases, as this can only be worked out by extensive laboratory and clinical investigation.

A definite rule to follow in all conditions is to consider it our duty to take a culture from all cases.

I think we have been carried away by the commercial houses. We have been promoting the business of a number of manufacturers and drug houses without any true scientific knowledge of the conditions of the vaccine used in this work. I believe that the amount of harm done by the use of stock vaccine may be very marked as some individuals are extremely susceptible. The problem is the resistance of the patient and I believe we are greatly at fault in making use of stock vaccines extensively, as it is done throughout the country.

DR. ODELL: Discussion closed: Stock vaccines are inexpensive and easily procured. It is therefore unfortunate that their scientific use is so limited. The information concerning bacteria, given in this paper, was obtained recently from the Bacteriology Laboratory of the University of Michigan. This information makes the use of stock vaccines rational in the case of only a very few of the bacteria concerned in infections of the upper air passages.

EAR COMPLICATIONS IN INFECTIONS FROM THE ZYMOTIC FEVERS.*

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Of all the frequent and secondary complications occurring in the course of the specific infectious diseases, the involvement of the ear, and its related structures, is of the greatest concern by far, not only from the liability of a subsequent impairment of hearing, but on account of the dangers to life occasioned by the extension of inflammation to the vital structures of the brain in such intimate association with it.

In order to fully grasp the tendency of the ear to coincident inflammation, in the course of the zymotic diseases, we must regard the ear from a clinical standpoint, and accept the view, held by Pierce and many others, that the middle-ear begins at the pharyngeal end of the Eustachian tube and ends at the most remote spaces of the temporal and occipital bones. From the Eustachian orifice to the mastoid spaces, we have a mucous membrane, that is histologically similar throughout; and failure to consider these associated structures as integral parts of the middle-ear leads to confusion in the localization of aural complications, and a misinterpretation of the symptoms, which denote positive otitic involvement.

According to most authors, fully 25 per cent. of all chronic otorrheas are due to scarlet fever and measles; and to a lack of timely and energetic treatment of these conditions at the onset, are due the varying and annoying disturbances of hearing to which these patients are subject; and the persistence of perforations and defects, which occur more frequently from aural complications in the zymotic diseases, than from all other causes.

The middle-ear is intimately associated with the upper respiratory tract in the pathological changes incident to the exanthemata, and is involved, in greater or less degree, in the specific inflammatory reaction and angina, characteristic of these diseases. The inflammatory swelling of the rhino-pharynx extends to the Eustachian tube, producing a condition of engorgement and resultant interference with the normal circulation of blood and air through the tube and tympanic cavity. This absorption of air and the coincident occlusion of the Eustachian tube, produces a negative pressure or vacuum with consequent chronic passive con-

gestion of the vessels of the mucous membrane. We then have a condition favoring exudation into the middle-ear of the vascular elements of the tissues, and the creation of a pabulum most favorable to the growth of micro-organisms, should these subsequently find entrance into this cavity. The shortness of the Eustachian tube and its greater patency in children, makes the liability of direct extension of suppuration from the pharynx to the middle-ear very great. Further, the occlusion of the Eustachian tube by adenoids or naso-pharyngeal growths, results in persistent congestion of the tube and tympanic cavity and a resultant hyperplasia of their associated lymphoid elements. Such conditions are favorable to the growth of bacteria and the accumulation of inflammatory products in the vault of the pharynx, thus facilitating the extension of pyogenic infection to the middle-ear. This is very liable to occur during the violent attacks of vomiting and coughing to which these patients are subject. In older children, blowing the nose or violent nasal donching adds to this danger. If, after invasion of the tympanic cavity by germs, the inflammatory condition of the tube persists, we have a closed abscess cavity, the same as in the antrum of Highmore, when blocked by an enlarged turbinate, and immediate inflammation and retention follow.

Many authors have emphasized the importance of the anatomic structure of the attic as a factor in favoring the accumulation of secretion in the middle-ear and mastoid. In the region of the attic are the ossicles, which normally have a poorly vascular mucosa, which must serve both as mucous membrane and periosteum. And in intimate association with them are the folds of the middle-ear, which contain the greatest amount of connective tissue. In the course of suppurative otitis, these connective-tissue folds are capable of great swelling, thus causing mechanical interference with the proper drainage of inflammatory products from the tympanic cavity. At the same time, the pressure of the retained pus contributes to the serious ulceration and necrosis of the ossicles themselves, which are especially vulnerable on account of their poor blood supply. Observation of persistent suppurative ear conditions in the clinics of both Alexander and Neumann at Vienna, demonstrates unquestionably that these swollen connective-tissue folds are the great obstacle in the way of free drainage of pus from the tympanic cavity and mastoid. The attendant lack of drainage prevents attempts at heal-

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ing, and causes marked impairment of hearing through the formation of scar-tissue or granulations, that mechanically interfere with the normal conduction of sound to the inner ear. Likewise, the proper drainage of pus from the tympanic cavity is interfered with and the tendency to chronicity increases. Of importance here is the formation of cholesteatomatous masses, which, histologically, are composed of misplaced epithelial cells, that migrate in from the dermal layer of the tympanic membrane, or form from ulcerations in the mucosa of the tympanic cavity itself. The erosion and necrosis of bone, due to these accretions, often involves the inner wall of the tympanum or tegmen tympani, thus opening up direct channels for the passage of suppuration to the cranial structures. Necrosis of bone, so common in the otitis of these virulent infectious diseases, may involve the facial ridge and cause permanent paralysis of the facial nerve.

In the course of the exanthemata, aural complications are often overlooked and masked by the intense symptoms of the original disease and we have no positive signs that the ear is the seat of a destructive inflammation. The first indication of a severe otitis may be the escape of pus from the meatus, and at this time the mastoid cells may be involved and extensive changes already present in the bone.

The middle-ear and mastoid are involved in a much larger percentage of cases of the exanthemata than it is possible to diagnose clinically during life. Both Bezold (1) and Korner (2) found in children, who died during the prodromal stage of measles, that the characteristic catarrh of the air passages had already extended throughout the tube and involved also the mucous membrane of the tympanic cavity, with no clinical signs whatsoever, during life, indicating ear involvement. In these cases we must regard the otitic inflammation as a part of the general inflammation incident to this disease. Politzer has repeatedly demonstrated that the mastoid is involved in a large number of cases in which there are no symptoms during life of this complication.

We cannot neglect our duty or ignore the role played by the specific infectious diseases as an etiological factor in causing deaf-mutism, the importance of which is emphasized in a study of this often preventable defect in the young. In a study of deaf-mutism, Yearsley (3) found in 592 cases of the acquired form, that 156, or 26.3 per cent., more than one-quarter, owed their

origin to middle-ear disease, occurring in the course of the exanthemata.

Borden (4) of Boston, in a recent contribution, has given very significant clinical findings of the frequency of otitis in a compilation of 2,164 cases of scarlet fever, measles and diphtheria. In this series there were 746 cases of scarlet-fever, 156 cases of measles, and 962 cases of diphtheria. The middle-ear was involved in 11 per cent. of the scarlet fever cases. Measles caused aural complications in 28 per cent. And in only 2.9 per cent. of the 962 diphtheria cases examined was otitic involvement demonstrable. In order to compare the autopsy findings in fatal cases with these clinical percentages, the same author examined 252 fatal cases of scarlet fever, measles and diphtheria. He found that diphtheria, which was least in the clinical, viz. 2.9 per cent., to be highest in the fatal cases in the number of mastoids, i. e., 31 per cent. In the fatal scarlet fever cases, 26 per cent. showed mastoiditis in comparison with only 11 per cent. of ear complications demonstrable in the clinical series. And of further interest in a perusal of these findings, is the fact that only 14 per cent. of the fatal measles cases showed mastoid involvement, whereas 28 per cent. showed clinically positive otitis.

A consideration of these statistics should impress us with the enormous frequency of grave aural involvement in the exanthemata, and so stimulate us to exhaust all means of successfully combating the ravages of these diseases in the middle ear and mastoid, and to properly treat these complications at an earlier stage, before the patient is hopelessly doomed to life-long misery through permanent deafness. Only by timely, energetic treatment can this mortality be lessened and the enormous loss of hearing from these diseases be diminished in frequency.

The responsibility for the preservation of useful hearing and lessened mortality in these cases, rests squarely upon the general practitioner. It is he, who must regard a persistent aural discharge as an indication of serious bone involvement of the vital tympanic structures and a potential cause of death. It is he, who must co-operate with the aurist and insist on timely surgical intervention in suppurative ear disease, thus saving the hearing and lives of many. Otherwise the discharge continues and a focus of chronic suppuration persists in the middle-ear and mastoid cells, which, like appendicitis in the abdomen, is a latent danger on account of its great tendency to infect and

seriously involve neighboring and vital parts. And brain abscess, fatal septic infection, or meningitis may result, causing death through direct extension of pyogenic infection from the ear to the cranial cavity.

Present day otology teaches us that many of these cases result fatally through the tendency to ascribe their symptoms to the toxemia of the specific constitutional disease, and that the manifestations of grave ear complications have been completely overlooked. Safety and the preservation of useful hearing are only assured by the positive and timely surgical elimination of this suppurative aural focus.

In the light of these facts, our obligation is plain. We must not temporize in these dangerous ear cases, and, in a sense of false security, employ lotion, syringe, or powder, none of which reaches the antrum or removes the focus of disease. And if we, as physicians, are to do our whole duty in combating the destructive ravages of these virulent suppurative processes in the ear and its associated structures, we must exhaust every possible facility for early diagnosis and prophylaxis at the very onset of these grave complications. Otherwise, our hope is lost of successfully combating a purulent otitis and preventing permanent destructive tissue changes in the middle-ear and mastoid. Intervention in time, with a full appreciation of the latent dangers to hearing and life must be our consistent aim.

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4. Transactions Ninth Internat. Otolog. Congress, 1912, pp. 98-9.

DISCUSSION.

DR. BERNSTEIN, Kalamazoo: I think we all, ophthalmologists and otolaryngologists, alike, realize the great importance to patients, of the early recognition of the ear syndrom in the infectious diseases. We, who see the end results and the dire consequence of the infections of the middle ear have been calling attention of the family doctor to them for a long time. The warning is bearing fruit, in the better attention on their part to ear complications but a great deal of propaganda work still remains. We owe it to the public to see also, that they realize that a running ear is not the simple thing the old ladies in the neighborhood seem to think. Unfortunately there is still a large number of doctors who feel that on the relief of pain in an ear, all danger has passed and the care of suppurations is a negligible quantity. It is not always the fault of the

family doctor if the ear condition is not recognized, partly on account of the irritability of the child and at times to the fact that even the most careful otologist will fail to detect the middle ear complication, as it does not always manifest itself in the classical way, moreover it has been shown in the report of the Massachusetts General Hospital that a double infection may be present and only one side receive attention, the error only to be discovered on the postmortem table. It has been claimed the otitis is more likely to occur in those children who have adenoids. Now I do not for a moment wish to minimize the importance of adenoids in ear suppurations, but it is now known to be a great fallacy to suppose that the ablation of excessive adenoid tissue will end ear suppurations.

DR. BULSON, closing: We cannot too strongly emphasize the importance and necessity of the early recognition of suppurative otitis by the general physician, who usually sees this condition first. To say that a purulent discharge from the ear is due to a simple participation of that organ in the general systemic manifestations of zymotic diseases is to invite disaster.

HEMORRHAGE OF THE EAR.*

W. E. NEWARK, M.D.

CHARLOTTE, MICH.

The external ear is made up of cartilage, connective tissue blood vessels and nerves. The blood supply of the auricle is derived from the superficial temporal artery, which in turn is one of the terminal branches of the external carotid artery, and from another branch of the later, the posterior auricular artery. In a well injected cadaver two or three branches can be seen passing completely through the pinna.

The external auditory meatus is cartilaginous and consists of a funnel-shaped division of the auricle. Its blood supply is from the same arteries that supply the auricle, except that some of the blood supply of the inner extremity of the meatus is derived from the arteria auricularis profunda, which is a branch of the first portion of the internal maxillary artery.

The veins of the external ear are the anterior, and inferior auricular. They empty into the temporal vein, which, in turn, conveys the blood into the external jugular vein.

The middle ear is divided anatomically into the three divisions: the cavity of the tympanum, Eustachian tube and mastoid process. The tympanic cavity which contains the auditory ossicles, is situated at the inner termination of the auditory canal. It is bounded above by the roof, the tegmen tympani, internally by the external wall of the internal ear and externally

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by the membrana tympani and the superior wall of the external meatus. The auditory canal is an irregular shaped funnel about one and a half inches in depth; the external wall is the tympanic membrane or drumhead which forms the fundus of the canal and is the external boundary of the tympanic cavity.

The tympanic membrane is composed of three layers, an external (cuticular), a middle (fibrous), and an internal (mucous). The arteria auricularis profunda furnishes the dermal layer and the arteria tympanica inferior a branch of the arteria stylomastoidea supplies the mucous layer with blood. The attic of the tympanic cavity is bounded externally by the bony wall which forms the inner end of the roof of the external osseous meatus. The roof or upper wall of the tympanic cavity consists of a thin plate of bone which is an extension of the superior surface of the petrous portion of the temporal bone. It is continuous with the superior surface of the mastoid portion.

It should not be forgotten that the plate of bone forming the superior wall of the tympanum is exceedingly thin, less than a millimeter, although certain skulls show a thicker plate of cellular structure. The floor is formed by a lamella of bone extending from the lateral inferior surface of the petrous portion of the temporal bone. This plate of bone forms not only the inferior surface, but assists in forming the posterior and anterior surfaces also of the tympanic cavity. Anteriorly it is in close relation to the carotid canal and inferiorly with the jugular fossa. The intimate relations of the tympanum to the internal carotid artery and the internal jugular vein are of the highest importance since a suppurative tympanitis may result in caries of the carotid canal and consequent fatal hemorrhage, or an invasion of the jugular vein, eventuating in venous phlebitis and thrombosis.

The anterior wall, which is deficient at the upper part, is formed of the anterior process of the lamella of bone which forms the floor of the tympanum. Above the superior termination of the anterior wall is the opening of the tympanic orifice of the Eustachian tube.

The tympanic cavity is lined with mucous membrane, which is continuous with the membrane lining the Eustachian tube and the nasopharyngeal space, on the one hand, and, on the other, with the membrane lining the mastoid antrum and cells.

The blood-supply of the middle ear is derived

from the external carotid artery principally, a few arterioles being supplied by the internal carotid. Small branches from the ascending pharyngeal artery, a branch of the external carotid, supply the Eustachian tube and its membrane, as well as the membrane lining of the tympanic cavity. The middle meningeal artery before entering the cranium, gives off small branches to the Eustachian tube. Within the skull it sends the superficial petrosal branch through the hiatus Fallopii to anastomose with the stylo-mastoid artery. The stylo-mastoid artery, derived from the posterior auricular artery, supplies small branches to the posterior tympanic wall, the stapedius muscle, the neuri-lemma of the facial nerve, and to the mastoid cells. The internal carotid artery sends minute branches into the tympanic cavity through small orifices in the carotid canal of the petrous bone. A small branch of the stylo-mastoid artery supplies the middle portion of the Fallopian canal. It supplies the stirrup and the adjacent obdurator membrane and is named the artery of the stapes. The tympanic artery is derived from the internal maxillary and enters the tympanum through the Glaserian fissure and anastomoses with the stylo-mastoid and Vidian arteries. It supplies the membrana tympani and the external auditory canal. The temporal artery gives off small branches which enter the tympanic cavity through the Glaserian fissure.

The veins of the middle ear accompany the corresponding arteries, and drain the blood into the veins of the external auditory canal through the membrana tympani, into the plexus of veins of the carotid canal surrounding the artery, into the veins of the dura mater by way of the petrosquamous fissure, into the pharyngeal veins and those of the maxillary articulation. Politzer has demonstrated direct connections between the blood-vessels of the middle ear and those of the labyrinth through the intervening osseous wall. This intimate relation of the blood-supply of the adjacent cavities easily accounts for labyrinthal symptoms resulting from vascular disturbances in the tympanic cavity.

The auditory artery, which is a branch of the basilar artery, accompanies the auditory nerve to the labyrinth. Hence it separates into two branches, one to the membranous cochlea and the other distributed to the semicircular canal and the vestibules. The veins correspond to the arrangement of the arteries. The cochlear vein opens into the internal jugular vein. The vestibular veins opens into the superior

petrosal sinus, and the auditory vein follows the auditory artery and joins either the transverse or the superior petrosal sinus.

ETIOLOGY.

Hemorrhage from the ear may be due to several causes and diseases as pronounced anemia, leukemia, rheumatism, exposure to intense sun's rays, pneumonia, diabetes, exanthemas, arteriosclerosis, traumatism, such as blows, incised wounds, explosion of shells, firing of cannons, typhoid fever, and some drugs. Bishop mentions some cases of hemorrhage from the ear from the giving of large doses of quinine and salicylic acid. My colleague, Dr. Knight, mentions two cases of hemorrhage in old people, a man and wife, in convalescence from pneumonia. Hemorrhages from the ear following scarlet fever are quite frequent, especially when mixed with a purulent discharge. Tuberculosis of the ear also is apt to be followed by discharge of pus, necrosis of the bone and hemorrhage.

Jingken reports a case of fatal hemorrhage from a congenital naevus, (Phillips page 155). Phlegmatous growth of a sero-sanguinous nature, epithelioma, and malignant growths of all kinds, may cause severe bleeding. Angioma is not uncommon, and varies in size from the small superficial enlargement of the capillaries to a large cirroid aneurism (W. S. 845). Treatment varies according to the size of the tumor. In small superficial growths, thermocautery, dissecting or ligating are necessary, and in large growths removal of the whole auricle by amputation, and sometimes it is necessary to ligate the common carotid. Severe bleeding may occur by wounding hematomatous growths which are difficult to stop. Yüngkens reports a case in which he had ligated the common carotid to prevent a severe hemorrhage which was threatening at the time of operation. The writer's brother had a growth of this kind on his ear which became wounded several times and the doctors tried several methods of controlling the hemorrhage. Our father controlled it by putting on a silver clamp, which, by tightening several times, caused a sloughing off of the growth.

Careless incisions of the tympanic membrane may be followed by severe bleeding, because sometimes the blood-vessels are not in their normal position. Care should be used in curetting the inferior tympani wall for at times it is thin and necrosed and one might wound the jugular vein. Discharge of pus and blood from cases of scarlet fever, tuberculosis may cause

more or less necrosis of the bone as well as the soft part, leaving the blood-vessels exposed. Severe hemorrhages may occur during the operation upon the mastoid, such as wounding the sinuses and may be very difficult to control. Several cases are reported of wounding the carotid which gives great alarm to the operator and they are sometimes very difficult to control. Extensive necrosis of the bone about the ear may occur in syphilis, enough to cause sloughing of the parts so that the vessels are open and fatal hemorrhages occur.

Hemorrhages into the labyrinth may occur from necrosis, blows on the head, boxing the ears, fractures, explosions and exhaustive labors during the hot summer months, all of which will cause dizziness and roaring in the head. Severe bleeding will cause deafness, unconsciousness and death. Numerous cases of vicarious menstruation are reported. Politzer reports a case of a young girl who was menstruating, suddenly became dizzy with roaring in the ears, followed by deafness, profound shock and death. Autopsy showed blood in the labyrinth.

Cases of Meniere's disease are rare and one should be on their guard against cases of this kind. One must be on the lookout for cases of hysteria who may assimilate all the symptoms of Meniere's disease, even to the extent of putting blood into the ear, and thus gain sympathy of their friends. The symptoms of the disease are profound shock, vertigo, nystagmus, roaring in the ear with deafness.

The suppurating disease of the middle ear may cause embolism in the sinuses and arteries which may quickly prove fatal. The symptoms following a thrombosis may vary according to the location in which it may lodge and have to be recognized accordingly. Localized hemorrhages may occur although less frequently in the crura cerebri, pons, floor of the fourth ventricle and cerebellum. In these situations they quickly prove fatal by causing rapidly advancing coma and interference with the respiratory and cardiac centers. The temperature immediately rises to 106 or even 108 degrees and a modified form of Cheyne-Stokes respiration is present. Extensive caries of the temporal bone may extend to the carotid canal, particularly to the vertical plate. The adjacent walls of the carotid artery become infiltrated with granulations, suppurates and a fistula is formed which leads to a fatal hemorrhage. In such cases, the artery becomes thrombosed before rupture occurs. If we have profuse bright red blood,

pulsating from the ear and through the Eustachian tube, we will know that this condition has occurred. Thrombosis of the carotid artery may be followed by embolism of the brain.

Hemorrhages may occur from the use of instruments in attempting to remove a foreign body from the ear. Hemorrhages of this kind are usually controlled by keeping the patient quiet, cold to the ear and by packing.

Last year the writer had a case of a girl about three years old who forced a doll's head into the ear and broke it off. Several attempts were made under an anesthetic to remove the small, round head which was pressed deeply into the auditory canal, but which could not be removed on account of the blood. It was necessary to make an incision back of the ear and turn the whole soft tissue forward when it came out easily.

TREATMENT.

Treatment in hemorrhages of the ear means rest in bed and quiet. In hemorrhages from fractures, gun shot wounds, sterile dressings and cold applications to the head may be all that is necessary in the most of cases. In hemorrhages from pneumonia, diabetes, suppurative otitis media, the tympanic cavity should be wiped out carefully and packed. With rest and cold applications, it is probably all that is needed.

In the removal of external growths, each case must have treatment according to indications. Most cases of hemorrhages of the ear will stop without any great loss of blood by simple rest in bed and cold applied.

What first called the writer's attention to this topic was a case which I will briefly relate.

Mr. B. aged 32, married. None of his family had ear trouble. As a child had whooping cough, measles and mumps. In Kalamazoo, five years ago, he had the first attack of hemorrhage from both ears and nose and several physicians saw him. Never has fits but before the attack there is a feeling of pressure in back of the head. Had an attack in June of this year when I saw him. Had some rise of temperature, severe headache that morphine did not control. Hemorrhage was severe enough to wet the bed. Headaches always feel relieved after hemorrhage. Had several attacks less severe than the last one during the past five years and now has occasional hemorrhage in both ears. Examination shows a perforation of the tympanic membrane. Blood pressure 115; no history of syphilis. Kidneys normal.

Am sorry to say I intended to have X-Ray plates made, and provided time and opportunity for him to do so, but he has been so careless that it has not been done. I believe there

are many cases of deafness due to syphilis and I believe particular attention should be given to this form of the disease. Hemorrhages in this disease will be treated similar to the rules already given, also proper anti-syphilitic treatment.

AURAL CONDITIONS FOLLOWING CONTAGIOUS DISEASE.*

J. M. ROBB, M.D.

DETROIT, MICH.

The matter which I wish to present today is based upon the observation of 950 scarlet fever and 1,025 diphtheritic cases in regard to the ear conditions arising during the course of the disease seen in the past three years in the Herman Kiefer Hospital of Detroit.

The statistics of such institutions will vary considerably in different epidemics, depending upon the season of the year, the community from which such patients have come and other complicating diseases. Many of the children came from charitable hospitals or from the homes of the poor and with the reduced vitality due to the unhygienic surroundings constitute the great number of the seriously sick cases. Upon such facts depend many of the differences in the statistics of the various hospitals so that the results can only be considered in a general way.

In 1912, out of a series of 318 cases of scarlet fever we had twenty-one ear suppurations or 6.6 per cent. with three mastoids or .9 per cent.

In 1913, out of 337 cases twenty-five ear suppurations or 7.4 per cent. with four mastoids or 1.1 per cent.

In 1914, of 295 cases reported to May 1 twenty-five ear suppurations or 7.8 per cent; five mastoids or 1.8 per cent.

Showing a grand total of 950 cases with 7.2 per cent. ear suppurations and 1.2 mastoid.

This percentage is apparently very low when compared with those of Downey (Glasgow) with 12 per cent. aural complications, Caiger 11 per cent. Borden (Boston) in a report of 746 cases with 11 per cent. But what we have reported here are actual suppurative otitis media and mastoids requiring operation.

There were some cases of mastoiditis not requiring operative procedure which were in combination with the acute suppurative otitis which are not recorded separately, but appear in the percentage list of suppurative otitis. One case of mastoiditis in which the symptoms of

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temporal bone involvement came before any disturbance in the drum head was evident, which is rather out of the ordinary, and, according to Ruttin is probably due to the streptococcus mucosus. In this case there was a rapid destruction of the mastoid with subperiosteal abscess and no apparent inflammation of the tympanum. At the time of operating, rather as an experiment, I did not do a paracentesis but was forced to do so three days after because of severe earache which upon inspection showed an active inflammation. In general it seems to me the cases reported not requiring paracentesis which I have not listed would bring the percentage of aural complications to about the same as the above writers.

In the diphtheria pavilion out of 1,025 cases of diphtheria there were but five cases of suppurative otitis media and not a single case of mastoiditis. There were three cases of otitis that did not require paracentesis. This does not mean, however, that evidence of mastoiditis might not have been shown post mortem, for, as Borden states in his paper reporting post mortem statistics upon mastoiditis following contagious disease, "of the fifty-nine cases of mastoiditis only six or eight were recorded during life and of that number operation was performed on one side only when both sides were diseased." It is true that this report gives a wide range varying from acute congestion to complete destruction, and it is undoubtedly the case that acute congestion can only be shown post mortem.

This wide variance in the clinical and post mortem findings makes one feel that, particularly in cases of scarlet fever, when our resources are pretty well exhausted in determining the causation of annoying rises of temperature, with which we are all familiar in the course of the disease, may be due to toxic products originating in one or both mastoids.

In our diphtheria cases there may have been some in which the fever came from mastoid involvement but there was not a report of a case complaining of mastoid pain or tenderness. This I remember distinctly as I was rather interested in the sparsity of mastoiditis, not having a single case in a total of 1,025 and would have given any case the benefit of the doubt had they developed any of the symptoms.

In the bacteriology of ear suppuration occurring in diphtheria none of them showed a pure culture of Klebs Loeffler but were found in combination with streptococcus, staphylococcus, and pneumococcus. The rapidity with which

these cases stopped discharging, none of them extending over a period of fifteen days, when compared with the almost never ending flow from the ear of the scarlet fever patient in which we found the same bacteria is remarkable. In the case of a child with scarlet fever in which we find streptococcus and Klebs Loeffler in the ear discharge; upon visiting the hospital we received the same report each day, ("ear still discharges, Klebs Loeffler and streptococcus still present"), until one begins to wonder if the child will ever go home. In the diphtheritic case we are confident at the outset, despite the fact that the same bacteria are present, that the tympanum will soon heal and the child will leave the hospital in about two weeks. This brings us to the conclusion that there must be a marked difference in the strain of the streptococcus and its virulence, or that in scarlet fever there is another factor which raises such havoc with the resistance of the body at the onset by its increased demand upon the vital organs that the mucosa of the Eustachian tube and the middle ear devoid of phagocytic power become a pool of infection and is destroyed both by direct bacterial action or by the acrid secretion; just as the retained secretion in the eye of a case of gonorrheal ophthalmia destroys the cornea.

The service of vaccine therapy used only in scarlet fever cases in our hands has been admittedly poor when compared with the report of others. One realizes that the factor to be borne in mind in using the vaccine is to get the correct active vaccine, the correct dosage and the correct interval between injections, all of which is undoubtedly hard to regulate and good results can only be obtained when we have developed the ability to feel our way along and watch the systemic reaction of each individual case, avoiding severe reaction with the resultant depression, yet giving the body sufficient stimulus to continuously resist. This can only be done, it seems to me, by one who is expert in this line. The results must depend to a considerable extent upon whether there are deep changes in the tissue or not. In the acute stage is the acceptable time to give a vaccine for I think it is generally conceded that if there is bone destruction no vaccine can be of much value.

Cultures (S) reported by Dr. Kiefer and Ferris has been used with some success in the alleviation of some of the general symptoms of scarlet fever but has not changed the percentage of aural complications in this disease.

One is inclined to believe, however, that acute

ear suppuration will some day be regulated by some form of bacterial therapy, but at present the result coming from those not expert and upon whom work must depend, has not been good.

We shall now consider some of the factors conducive to middle ear suppuration. Every case of otitis media following scarlet fever showed upon inspection the typical facies of complete nasal obstruction. Upon the insertion of the tongue depressor with the resultant contracture of the palatal muscles when gagging a few drops of sero pus trickled down the posterior wall of the oro pharynx; upon digital examination the naso pharynx was full of succulent infected tissue almost gangrenous in appearance, so much so in fact that one hesitates in making the examination with the unprotected finger and really wonders that the Eustachian tube does not permit of more infection than we actually find.

The problem that confronts us now is how shall we drain this area, and in children, at least, the only refuge we have is in the hot nose and throat irrigation given with as little force as possible which we use as a routine. Infecting the middle ear by such treatment is undoubtedly possible, but if the force of the stream is minimized and not prolonged the possibility is much lessened for it is not what you wash out as much as what the heat does in re-establishment of the vascular control in the stagnant venous plexuses of the nose.

In the consideration of this factor of nasal obstruction I thought it advisable at the time of doing the paracentesis for the acute otitis media to do at the same time an adenoid operation, not with the thoroughness used regularly but sufficient to remove most of the tissue and permit drainage, and it seemed to me that the period of suppuration was considerably shortened and patient more comfortable. One might suppose that there would be a grave possibility of infecting such an operative wound and consider it a surgical error to attempt it, but in accord with other moves we make in medicine which seem to be contradictory there was no infection and the results good, probably because the lymphatics of this region were sufficiently blocked by micro-organisms to prevent any sudden influx and the resultant general disturbance.

The difficulty in diagnosing middle ear complications, as may be noted from the difference between the post mortem and clinical findings, is great. This is partly due to the age of the

majority of the patients where pain, although it is our best symptom, is to some extent eliminated from the situation. Temperature is usually seen but is so uncertain that it cannot be relied upon. Fretfulness is generally present, and although at first thought a rather insignificant symptom, yet such a report from an efficient nurse arouses our suspicions at once and is frequently what brings us to a careful examination of a case and we find the swelling of the drum membrane, which is our conclusive evidence of the beginning otitis.

When the diagnosis is made there is but one course and that is a thorough incision of the tympanum. This is particularly true in otitis media complicating scarlet fever. In a few cases the attempt was made to prevent the progress by the ordinary medicinal combinations such as eocaine, carbolic acid and glycerin drops, but upon returning the next day the ear was discharging not freely, finally requiring opening or else the whole drum head had become gangrenous and sloughed away. The establishment of drainage is easy, but keeping the opening from blocking may require several incisions and thorough irrigation. We have always used ether in incising the tympanum in children and nitrous oxide in adults with no untoward results. From what we have seen the irritative effects of ether upon the kidney have been much over-estimated; not even those patients suffering nephritis at the time of administration showed ill effects.

We use a hot saline irrigation two or three times a day with the instillation of some combination of antiseptics such as bichloride of mercury, alcohol and formalin drops once a day. The frequency of the irrigation depending upon the amount of discharge. I do not feel that powders have shown satisfactory results except in suppurative otitis where the discharge is small which is generally not the case in the acute and subacute stages of otitis media following contagious diseases.

In the treatment of mastoiditis, heat is the most agreeable applications; cold is always objected to by the patient and probably masks the symptoms.

When mastoiditis has developed we cannot afford to hesitate too long as the toxins will in many cases soon overwhelm the resistance of the body and jeopardize the life of the patient. We have to return now to the same proposition of drainage as mentioned before in considering abscess of the middle ear and this again is comparatively easy. The problem comes as to

how we shall close the wound so we will have the best drainage, the quickest healing and the least trouble with persistent fistula.

The method of closing with a blood clot is least favorable with this type of case, because there is usually considerable active pus present which is liable to infect the clot and you are forced to open wound and pack in the usual way. When I see the tardiness with which this dressing heals, the tendency to a permanent fistula and the fact that at each subsequent cold the mastoid is liable to break down again, it seems that a closure of the posterior incision, with the making of meatal skin flap and dressing through the external auditory canal is a good substitute. This I have tried twice with much better results than previously. I grant the dressing is long and tiresome but not more so than the average case in the simple operation and there can be no fistula either persisting or re-appearing with succeeding colds. The suppuration may begin again but it has an outlet and there is no absorption of toxic materials. This is not advocated as a routine in the least, but in those cases in which there is such a tendency to persistent discharge singularly noticeable in ear suppuration following scarlet fever it may prove helpful.

It would seem that there is a tendency on the part of surgeons doing mastoid work to have their minds set before beginning the operation that they will do a simple or a radical procedure with the feeling that there is only two ways and any deviation from these stereotyped methods is rather indicative of lack of training.

I have seen in the service of Dr. Campbell wonderful results in blood clot work. True, these were selected cases for this operation but is not every case a law unto itself and might we not always adapt our procedure to meet the exigencies of the case, that is, be more elastic, even though we be different from the text book?

The only death we had of those cases in which a mastoid was done followed one week after the operative procedure. The child had a nephritis at the time of operating and later developed a severe acetone-mia and death apparently came as sequence of the general disintegration seen in those cases of fulminating scarlet. We have had no cases of labyrinthitis or brain abscess and none of meningitis due to aural complications.

INTRA-NASAL AND PHARYNGEAL INFECTIONS IN THEIR RELATION TO THE EYE AND EAR.*

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KALAMAZOO, MICH.

The close proximity of the organs of the head favors a correlated pathological activity. The eye and ear are near the nose and nasopharynx and have immediate communication with them through the tear ducts and Eustachian tubes, as well as through the lymphatics, the blood vessels and the nervous system; hence, disease in one often gives rise to certain symptoms or diseases in the other.

It is not uncommon to observe an inflammatory condition in the eye simultaneously with or following a similar process in the nose and it is a well known fact that inflammations of the epi-pharynx sometimes extends through the Eustachian tubes, by continuity of tissue, to the middle ear. Also that nasal discharges, especially when there is an empyema of the accessory nasal sinuses, usually pass backward into the epi-pharynx and cause irritation and inflammation in this region.

Complications resulting from accessory sinus disease are of great importance, as shown by the investigations of recent years. Their anatomical relations to the orbital cavity and the optic nerve are so intimate that frequently, by continuity, contiguity and mechanical pressure, intra-nasal infections produce diseased conditions in the orbit, optic nerve and eyeball.

The frontal sinus adjoins the orbital cavity at the junction of the superior and internal walls, the ethmoids form a large portion of the internal wall, the maxillary sinus is in direct relation with the inferior wall and often only a thin layer of bone separates the optic nerve in its close relation to the sphenoidal sinus and the posterior ethmoidal cells.

The ethmoidal veins and arteries course intracranially for a short distance and a direct communication also exists between the veins and lymphatics of the nasal mucosa and dura. It has also been shown that a considerable portion of the venous blood from the anterior sinuses finds its way into the ophthalmic vein.

The ophthalmic artery supplies not only the eye by the central retinal artery, anterior and posterior ciliary, lachrymal and muscular, but as well gives off the anterior and posterior ethmoidal branches supplying these nasal and accessory cavity structures. The orbital veins anastomose with the veins of the nose and acces-

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sory cavities, as well as these of the face, and the scheme of this venous system well shows how the outflow from the eye can be affected by changes in the ethmoidal branches.

If inflammatory disease in the accessory or nasal cavities produce a hyperemia or a venous stasis of these parts, the circulatory relation is such that the vascular conditions in the eye are changed and the functional comfort of this organ will be disturbed and where conditions form a more marked departure from the normal and systemic conditions are such as to favor the spreading of foci of disease, it is easy to see how pathological changes are brought about.

The relationship of the lymph stream from the orbital structures to those of the nasal tissues has not been so well demonstrated but this may furnish a possible means of transfer of infection.

The most frequent causes of complications in the orbit are anatomical, by the presence of defects in the bony walls separating these structures and pathological from stagnation of secretions in the sinuses through obstruction to free drainage.

Defects in the superior or orbital wall of the maxillary sinus rarely occur, dehiscence is not infrequently found in the frontal and then the periorbital tissues come in direct contact with the sinus mucous membrane, defective formation is most frequently found in the lamina papyracea and favors the formation of orbital abscess. In the sphenoid defects always occur in the superior or lateral walls and seem to appear more frequently than defects in any of the other sinuses.

Disturbances in the circulation produce hyperemia, thrombosis of the central retinal vein, causing blindness, and thrombosis of the cavernous sinuses.

From intoxication the optic nerve is affected. This is more particularly associated with sphenoidal empyema in which there always exists more or less obstruction.

In purulent inflammations the continual apposition of the purulent secretions results in maceration of the epithelium, which gradually pervades the entire mucosa until it becomes, in certain areas, loose on the underlying bone. In this manner the material slowly infiltrates through the canaliculae and Haversian canals and eventually reaches the periosteum on the opposite side. From here on there is but little resistance to the spread of the infection.

Ordinary acute suppurative inflammations of the nose may be due to streptococcus, pneumo-

coccus, staphylococcus aureus and albus, bacillus pyocaneus, bacillus coli and the bacillus of influenza. Pathogenic micro-organisms are never present in normal sinuses, the mucous membrane, under ordinary normal condition being able to render inert and expel the germ. Infection begins with an attack on the cell by the microbial agent, wherever it may be and the fight is on. Leucocytes are attracted to the region, there is hyperemia and swelling of the mucous membrane and glandular secretion is exaggerated. At first the mucus carrying leucocytes in considerable number, is thick and tenacious; later, thin and purulent and as the degenerative process progresses other parts are involved, unless good drainage is established, in which event there is a prompt recovery.

The literature of reported cases covers conditions varying in severity from hyperemia and mere pain to panophthalmitis. Orbital cellulitis, abscess, exophthalmus, edema of the lids, periodic episcleral congestion and optic neuritis include the greater number of these cases aside from the functional ocular disturbances or purely superficial lesions of the conjunctiva.

There is no phase characteristic of these lesions by which, from them alone, the positive conclusion can be drawn that they are of nasal origin. Sixty per cent. of the cases of orbital inflammations are of known nasal origin, so the actual per cent. is probably higher.

In retrobulbar neuritis of sinus origin the first symptom is an enlargement of the blind spot for color and later on for white. Isolated scotoma or intermediate ring scotoma may also appear, but the nasal disease must be found to establish it as a cause.

The external muscles of the eye are in such relation to these cavities that their function can easily be involved, this being particularly the case with the superior oblique.

Dacryo-cystitis arising in the course of maxillary and ethmoidal inflammations has been observed many times.

Infections of the nasal cavity and nasopharynx are not only frequently the starting point of affections of the middle ear, but also through continuity and through obstruction to nasal breathing, exert an important influence on the course and termination of middle ear affections. The nasopharynx has been known as the cause of a very large percentage of aural disease for generations, but owing to its inaccessibility it has been given scant attention.

The Eustachian tube is admitted the most

common if not the only path by which bacteria reach the tympanic cavity. Conditions of lowered vitality is a predisposing cause and renders the individual more susceptible to suppurative middle ear lesions. Only in this way can be explained the enormous prevalence of suppurative otitis media among the ill nourished and poorly housed children of the poorer classes.

Children suffer more frequently than adults, due in part to the influence of pharyngeal adenoids, to their greater susceptibility to acute infectious fevers and to certain anatomical differences in the Eustachian tubes in infancy and childhood, as compared with the adult.

Just what percentage of cases of the acute exanthemata give rise to aural disease has not been determined and were the ears of all children suffering from these diseases examined daily, there is little doubt that a larger per cent. of cases of acute tympanic disease would be diagnosed than is represented by those usually attracting the physician's attention.

The purulent otitis media associated with measles is of severe average type and the percentage of cases developing suppurative mastoiditis is particularly large.

The inflammation complicating scarlet fever comes next to that associated with measles in the frequency which the mastoid cells are involved. Another serious and characteristic feature of scarlatinal otitis media is the great rapidity with which the drum membrane may be actually destroyed.

As compared with measles and scarlet fever the ear complications of diphtheria are mild and infrequent and there is greater danger of extensive destruction of the drum head than of rapid and serious involvement of the mastoid.

Grippe or influenza is a frequent cause of more or less severe ear disease and in certain epidemics shows a marked tendency to rapid involvement of the mastoid.

Parotitis or mumps seldom causes tympanic suppuration but when the ears do become involved the labyrinth as well as the tympanum is not infrequently involved.

In conclusion, when we are dealing with infections of nose and nasopharynx we should go into the minutia of the parts involved and study carefully their relationship and by careful observation of cases, aided by transillumination and skiographic pictures, we will then become more able to appreciate the many of the hitherto ill-defined and obscure symptoms, and particularly the cause for many of the abnormal ocular manifestations.

No two specialties or specialists ought to be more intimately related than the oculist and oto-rhinologist and these two frequently need the co-operation of the internist, radiographer and laboratory expert.

ACUTE AND CHRONIC SINUSITIS OF NASAL AND PHARYNGEAL ORIGIN.*

FERRIS N. SMITH, A.B., M.D.

GRAND RAPIDS, MICH.

This subject is so large, indeed it might well be the title of a text, and the time allotted for its discussion so brief that aside from merely alluding to the etiology and symptomatology of the acute conditions and their bearing upon the chronic symptomatology, it will deal largely with the cause, diagnosis, and treatment of the chronic conditions.

If one excepts the pathology of the maxillary sinuses which is consequent upon dental infection, it may rightly be said that the great percentage of all accessory sinus conditions are of nasal and pharyngeal origin. The acute involvement may or may not occur in a nose anatomically normal, but it most frequently occurs in that nose presenting anatomical abnormalities. This abnormality may consist of an hypertrophied or diseased adenoid, a post nasal neoplasm, septal hypertrophies and deformities with contact, hypertrophies of the turbinates and lateral walls, a large bulla or a large cell in the anterior end of the middle turbinate, (1) but whatever may be its nature, it is accompanied by a local or general stasis which mechanically obstructs drainage and ventilation, robs the mucosa of its vascular protection and renders infection easy.

Sufficient is known of their anatomy, physiology and of the physical effects of proper nasal ventilation and drainage to demonstrate the ease with which sinus involvement may occur by direct infection in the presence of a healthy nasal mucosa (2); by extension from an acute rhinitis; by drainage from an overlying sinus; and, secondarily, as the result of tuberculosis (3), lues or malignancy. The direct involvement is quite characteristic of influenza (4) croupous pneumonia (5) and diphtheria (6).

Extension by continuity is probably by far the most frequent occurrence in sinus disease.

Foreign bodies through the nose are an occasional source of infection.

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Several factors determine the chronic state. Notable among these is an idiosyncrasy of the patient; frequent mild infections; virulence of the infecting agent; obstruction to normal drainage or a viscid, tenacious secretion; and continuous drainage from another sinus.

Pathology of a chronic sinus may consist in hyperplastic changes, varying in all the stages from a simple hyperemia to the degenerative processes and, more rarely, to ulceration with necrosis and caries (7). This latter condition is generally found in the invasions of scarlet fever.

The prevalence of chronic sinuses is variously estimated from 3 to 6 per cent. by clinicians (8) and from 17 to 47 per cent. (9) by pathologists examining bodies dying from all causes. The latter figures are manifestly too high and, it seems equally certain, that the former are too low.

Perhaps no class of cases so tries the patience of the practitioner nor gains so little sympathy and real medical assistance as the individual complaining of a general or localized headache, a feeling of lassitude, myasthenia, depression and melancholia. Such a patient may complain of irresistible sleepiness during certain periods of the day or merely a periodic or constant localized headache. The practitioner is prone to think first of auto-intoxication and give a cathartic; secondly, of the patient's eyes and send him to an oculist and lastly to make or have made a cursory examination of the nose and, if no pus or contact is noted, the patient is dismissed as a neurasthenic (19) or hysteric. It is just such a patient that frequently suffers from persistent pathology in the accessory sinuses and needs treatment. It is well to recall the intimate connection between the vascular and lymphatic circulation of the nose and brain as well as the relations of the nerves in this region and those supplying the scalp and face. Further, one should keep in mind the intimate anatomical relationship of the nasal fossa and accessory sinuses to the brain.

The presence or absence of pus in the nose is no indication of accessory sinus disease. Pus may originate in the nasal mucosa and the sinuses may be sterile or the empyema of the sinuses may be of the closed type and the nose may be clean. Nor is pus essential to the production of the symptoms. The whole condition may arise from a simple catarrhal process with only edema in the nose as an evidence. Nor is local tenderness and pain an excluding sign.

It may be well to review the chief symptoms

—both subjective and objective—and the cardinal points in differential diagnosis. Probably the most frequent complaint of the patient is secretion in the nose and naso-pharynx. We have just observed that the presence of secretion in the nose is not typical of sinus infection. Nor is the location of the secretion or its consistency and amount any criterion (10). Pus which reappears quickly at a given point after wiping and about the locations of the ostia is diagnostic. However, pus is frequently absent at the time of examination. This is especially true of morning examinations where the maxillary and sphenoidal sinuses are involved. The presence or absence of secretion at a given time is also influenced by its consistency and the size of the ostium.

Almost as frequent as the presence of pus is the presence of headache. Hajek states (11) that its absence is of no value but that its presence is very important in the total symptom complex. He says "Many cases of sinus disease with slight nasal symptom go through their entire lives with the diagnosis of chronic headache, taking all manner of cures without it ever occurring to anyone that the headache might be caused by a structural disease in the immediate neighborhood." The causes of the headache are variously given by Skillern (12) as pressure upon or irritation of the nerves, contact of swollen mucus surfaces, vascular and pressure changes in the cavity, ulceration with nerve involvement, toxic absorption, and vascular and lymphatic changes at the base of the skull.

The intensity of the headache has no proportion to the disease and may vary from a "dull, heavy feeling" to an acute neuralgia. These conditions may be constant or may occur at intervals of hours or days. The sensations is generally localized along one or more branches of the fifth nerve (13). Grunwald states that the headache occurs in about 50 per cent. of the chronic cases.

Tenderness above the inner canthus of the eye is diagnostic of frontal inflammation and is occasionally elicited over the canine fossa. Dizziness, vertigo and marked physical disturbances are not infrequently characteristic (20). Subjective sense of foul odor, cacosmia, is diagnostic and anosmia is frequently the result of chronic irritation with its consequent hypertrophy. A history of asthma, frequent bronchitis, and gastric disturbances should call attention to sinuses.

The diagnosis of sinus involvement and its

exact localization not infrequently requires several consecutive examinations at various times of day. The history of the symptoms detailed are frequently of considerable assistance. However, the final judgment must rest upon the results of a careful inspection, instrumentation, and the use of physical accessories.

Eczema of the anterior nares is frequently present as the result of either catarrhal or purulent drainage. Certain changes in the lateral nasal wall furnish strong presumptive evidence for a diagnosis. Early among these in the catarrhal state, one notes edema and stippling of the bulla and anterior lip of the unciniate process when the first group of sinuses is involved. At a later stage, hypertrophies (?) and atrophies are the rule. The hypertrophy may be fibrous or polypoid, if one considers a polyp a progressive rather than a degenerative change. These hypertrophied areas are generally found in the region of the drainage opening and the area of atrophy is below this point.

In the case of involvement of either group, inspection of the naso-pharynx, pharynx and larynx may furnish considerable evidence. An acute or chronic inflammation of one or both lateral bands is practically diagnostic (14), while a dry pharyngitis almost invariably results from the constant irritation of sinus drainage. This is particularly true in those cases where the condition is most marked in the naso-pharynx and gradually diminishes as the lower limit of the pharynx is approached. Thick, dry, tenacious mucus is generally present in the naso-pharynx.

The larynx frequently presents hyperemia and inflammatory changes in the ary-epiglottic folds and arytenoid cartilages and chronic capillary congestion with thickening of the true cords.

A simple differential procedure suggested by Yankauer frequently establishes the source of the foregoing symptoms in accessory sinuses. Steam inhalation shrinks the mucosa and favors drainage. A partial or total relief is positive evidence (10).

When secretion is evident, it must always be followed to its source. We will suppose that pus is seen in or below the middle meatus. It will be our purpose to localize the source in one or all of the sinuses of this group. First, the pus is mopped away and, if it quickly reappears, we can be sure that it does not originate in the nasal mucosa. Now we make an effort to examine the maxillary with a catheter by fracturing

the middle turbinate toward the septum and attempting to catheterize the normal or accessory ostium. This rarely succeeds but should always be tried. This procedure failing, a needle puncture is made through the inferior meatus and the cavity inflated. A bubbling sound shows the presence of secretion. Its mere presence, however, does not establish its source since it may have drained in from an overlying sinus. The antrum is now liberally irrigated and the meatus inspected again in two or three hours. If no pus is present, then the antrum is the seat of disease but, if pus is seen, it must come from the frontal or ethmoids or, probably, both.

An attempt is now made to sound the frontal sinus without resecting the middle turbinate, but this generally fails. In the event of success by either procedure, the sound is replaced by a catheter and the cavity is inflated. Any secretion will be seen coming down at the highest visible point on the catheter. If secretion is present, the cavity is carefully washed and the opening plugged by cotton smeared with sterile vaseline. Several hours later another examination is made. If no pus is seen in the middle meatus, then the maxillary has only acted as a reservoir and is not infected. If pus is seen in the meatus and also drains down when the plug is removed, we have established the pathology in both sinuses. Further, if the frontal is involved, it is practically certain that the ethmoids are also implicated.

When the pus is found in the olfactory slit or above the posterior end of the middle turbinate in the choana, a similar procedure must be carried out to localize its source in either the posterior ethmoid group or the sphenoid sinus or in both. The posterior half of the middle turbinate is resected and the sphenoid catheterized. The patient may now either lie down for an hour in order to prevent sphenoidal drainage or the sphenoidal ostium may be plugged with vaselined cotton and re-examination made in several hours. At this time, the presence or absence of pus on the outer surface of the cotton plug will settle the condition of the ethmoids and the condition of the sphenoid is settled by the presence or absence of drainage upon removal of the plug.

The X-Ray, (15) in the hands of the expert only, is a valuable adjunct in the building of a diagnosis and determining treatment. Not only must the operator be expert, but the interpretation must be made by one with expert knowledge of plates of this type. It should be remembered that a shadow does not necessarily

indicate pus but may result from a thickened mucosa alone, pus alone, or the presence of both (16). The plates have the greatest value when there are unilateral shadows. They are reliable for the frontal sinus and anterior and middle ethmoidal cell groups. The efforts of Spiess, Pfeiffer, Pfahler and Skillern have produced a technic which gives good pictures of the sphenoid and posterior cells (17).

Transillumination should only be considered as a confirmation of other findings and is never of diagnostic value *per se*.

The treatment of these conditions, when no complication threatens, must be influenced by the social status of the patient as well as by the pathology in a given case.

In all cases, septal deformities, polypi, hypertrophies, etc. should be removed and good drainage secured. The constitutional state should be regulated. Beyond this, either the patient's personal desire or his occupation will determine, to a great extent, the procedure to be adopted. Having secured good drainage, it remains to treat the diseased mucosa. The simplest procedure commensurate with the condition should be attempted first and this will generally consist of frequent, copious lavage with saline and the careful drying of the cavity. Many of these cases heal without other interference. If no improvement occurs, some form of radical surgery must be considered. These procedures are too numerous for discussion here.

Vaccine therapy (18) has recently demanded considerable attention and acquired some enthusiastic supporters. Personally, I have yet to see a cure in a chronic case that can be absolutely attributed to either a stock or autogenous vaccine. However, in those mild cases which do not demand immediate relief it should be tried. The theory is alluring and possibly

the failure in my cases can be credited to stock vaccines which were not potent or to autogenous vaccines poorly made.

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PROPAGANDA FOR REFORM.

Agar-lac.—Agar-lac, sold by E. Fougera and Co., is stated to be composed of "Agar-Agar with Lactic Ferments Grs. 4½, Phenolphthalein Grs. ½." Regarding the "lactic ferment," the expert of the Council on Pharmacy and Chemistry reported that *Pacillus Bulgaricus* were present in small numbers only and that there were at least two other bacteria present. The Council refused recognition to Agar-lac because its composition is not correctly declared, because it is exploited in a way to cause laymen to use it to their detriment, because unwarranted therapeutic claims are made for it, because its name does not indicate the most potent constituent, phenolphthalein, and because the use of a ready-made combination of cathartic drugs with lactic acid fer-

ments is unscientific (*Jour. A.M.A.*, Nov. 14, 1914, p. 1777).

Papine (Battle and Co.)—This is a simple aqueous alcoholic solution of morphin, 1 grain to each ounce. It is exploited under the utterly unwarranted claim that it does not nauseate constipate nor create a habit (*Jour. A.M.A.*, Oct. 17, 1914, p. 1411).

Eckman's Alternative.—Eckman's Alternative is a "consumption cure" patent medicine consisting essentially of alcohol, calcium chlorid and cloves. Now the Eckman concern is running a series of advertisements in which medical writings on the use of calcium in tuberculosis are twisted into recommendations for the nostrum (*Jour. A.M.A.*, Nov. 7, 1914, p. 1686).

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, November 10, 1914

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary-Treasurer.

SOME POINTS IN THE DIFFERENTIAL
DIAGNOSIS OF CEREBELLAR
ABSCCESS AND CEREBELLAR
LUES.

R. BISHOP CANFIELD, M.D.

(From the Otolaryngologic Clinic, University Hospital).

I wish to report the following case, which exemplifies the difficulties of a differential diagnosis between cerebellar lues and cerebellar abscess.

The patient presented is Miss O., age 22. Family history negative. Personal history negative until eight years ago, when she caught cold, and a bad earache, left ear, lasting for six weeks at which time the ear ruptured and a large amount of pus escaped. This discharge continued for several months during which time she was weak and generally run down. However, she recovered from this condition and since then her ear has been somewhat sensitive to cold. She had measles as a child but has always been well and strong and has led an active life. On June 15, 1913, she complained of earache which had lasted for three days with a temperature ranging from 99° to 105°. At this time she was seen by her physician, who states that there was a small perforation in the tympanic membrane. This opening was enlarged and the temperature fell to normal. On the second day following the paracentesis, there was a copious discharge of sero pus. Three days later, a second paracentesis was done. The discharge continued until July 28, when an X-Ray examination was made by Dr. R. J. Read, of the Battle Creek Sanitarium, who reports that the left mastoid showed a large irregular shadow extending backward to the region of the lateral sinus. On August 6, a simple mastoid operation was performed. The fol-

lowing report is that of Dr. Colver, and shows his operative findings:

"The patient being in the right lateral position, an incision two and one-half inches in length was made three-eighths of an inch behind and parallel with the base of the left auricle. When the bone was exposed, there was some bleeding which recurred on being sponged away. The mastoid mass was extremely hard and showed practically no pneumatic cells. The lateral sinus was exposed very superficially and not far posterior to the external auditory canal. Rather free bleeding resulted, which was promptly checked on packing quarter-inch iodoform gauze into the wound and against the side of the membrane wall. The antrum was opened and a free passage into the middle ear was established. Quarter-inch gauze was packed into the wound and it was closed with three silkworm gut sutures and Michel clips. After twelve days' stay in the surgical ward, she was removed to her room in the building in the Ladies' Annex, returning every other day for dressings. Following this operation the circulatory disturbance of the lateral sinus resulted in a serous labyrinthitis, which gradually cleared up in the course of several weeks. On the 15th of February, 1914, she again consulted me in regard to headaches, which were in the frontal and temporal region and I found that the middle turbinates were markedly crowded. I removed the anterior third of both middle turbinates, and this headache was practically relieved, following recovery from that operation. Throughout this period of time, however, there was pain and tenderness above and behind the left mastoid, and continued tenderness over the left frontal sinus. X-Ray examination failed to show any sinus infection."

Examination on Entrance.—Patient well

built and well nourished, apparently a healthy girl with a somewhat square head and expression of the central part of the face suggestive of congenital lues. Physical examination, negative. Nose and buccal cavity, negative, except for the fact that the upper media and lateral incisors show the evidence of caries. This caries, the patient states, began a few weeks after the operation and has persisted. Before the operation, the teeth were apparently in perfect condition. Ears: Whispered voice, 20 feet. Weber not localized, Rinne, positive. Bone conduction, 10 seconds, both sides. High limits normal, low limit normal. Otoscopic examination, negative. Mastoid wound perfectly healed, scar satisfactory. Spontaneous rotatory nystagmus somewhat staggering in character, of 1° to both right and left, rather more marked to the left. This nystagmus varies in degree and is not always present. Patient's chief complaint is a sense of dull pain over the frontal and left occipital regions. Turning test shows after nystagmus, rotatory in character, somewhat wild, of twenty seconds to the left after turning to the right. The nystagmus to the left is rather more marked than is that to the right. Caloric test positive. No fistula test. Patient was referred to the ophthalmologic clinic, report from which is appended:

The vision O.D. 5/5, O.S. 5/5. Tension with tonometer, 18 in both eyes. Reflexes, normal to A.C. and D.

Ophthalmoscopic Examination: O.D. Media clear. The nasal side of the disc is elevated about one diopter above the temporal border; slight depression of the vessel entrance, but the whole disc is higher than the retina, the highest point of elevation about two diopters. The disc has a pearly grayish color. Scattered through the elevation are innumerable glistening, slightly granular appearing hyaline bodies, mostly confluent, extending in every direction sufficiently to obscure the disc border. The perivascular tissue is quite conspicuous in the central portion of the disc. There is a secondary ring about the disc reminding one of the condition antecedent to the development of myopic ataphyloma. The arterial reflex stripe is somewhat conspicuous; the veins are somewhat tortuous, the macular veins especially so, some of the inferior veins having corkscrew characteristics. Several of the macular vessels on the temporal side also show corkscrew characteristics. One of the inferior nasal veins is tortuous and makes a complete loop. The foveal reflex is distinct; surrounding the foveal reflex

there is a yellowish stippling irregularly distributed in the foveola; the remainder of the macular area is apparently normal.

O.S. Media clear. The general appearance of the disc is much like that in the right eye but the hyaline bodies are not so developed; the elevation is about two diopters; there is less depression at the vessel entrance; the glistening bodies are more confluent and less conspicuous but distinctly present on the nasal side of the disc. The arterial reflex stripe is much broadened, markedly conspicuous especially along some of the vessels; the veins are tortuous; the superior nasal vein shows a complete loop similar to that observed in the other eye. The macular vessels are tortuous and somewhat corkscrew like. Very distinct arterio-venous compression but no distal dilation. The foveal reflex is present: the foveola is not granular as was described in the other eye.

O.U. The disc is elevated from two to three diopters, due to hyaline bodies deposited on the disc. There is no true neuritis nor choked disc.

O.D. $\div .25$ combined with $\div .75$ axis 90 gave 6/5 vision.

O.S. $\div .25$ combined with $\div .50$ axis 90 gave 6/5 vision.

The patient was wearing $\div .25$ combined with $\div .25 \times 90$ in O.U. and wished to postpone a change of glasses until the diagnosis had been completed. We enclose a copy of the visual fields. The contraction of the color fields appear to indicate a lowered activity of the cone elements of the retina. Whether this is associated with the inflammatory process of the macular bundle or to some other cause, it is difficult to say.

The salient points in her history are as follows: Acute suppurative otitis media in June, 1913, accompanied by temperature apparently out of proportion to the severity of her infection, the character of the discharge, seropus, being suggestive of streptococcal infection; the necessity for a second paracentesis, speaking for extensive infection; the injury to the sigmoid sinus at the time of operation; the fact that she enjoyed four weeks of satisfactory convalescence before the appearance of nausea, vomiting, vertigo, staggering and headache, (with the possibility of spontaneous nystagmus); persistence of headache, vertigo, and pain in the occipital and frontal regions, and the steady progression of caries of the upper teeth since the operation.

Our preliminary findings showed a well developed, apparently healthy young woman, with rather square head and slight frontal bosses,

wide palpebral apertures and caries of the upper teeth, and the expression about the central part of the face, suggestive of hereditary lues. Examination of the field of the operation showed an excellent result, the ear being dry, membrane closed and mastoid healed. The hearing test was very significant in that with good hearing for high and low notes and for conversational voice, she showed marked reduction of bone conduction on both sides. She showed spontaneous rotatory nystagmus of 1° to both sides, more marked to the operated side. This nystagmus, although vestibular in character, is not of a pure type. It is somewhat staggering in appearance, its components being somewhat larger than seen in labyrinthine disease. This nystagmus varies in intensity from time to time, and is not always present. In this clinic such a nystagmus is considered characteristic of some disturbance at the base. Caloric and turning tests produced the customary reaction, but accentuated the irregularity and staggering appearance of the nystagmus. Her pointing faults are atypical.

In view, then, of her history we had to consider cerebellar abscess, cerebellar meningitis of pyogenic origin, and basal syphilis. If we set aside the fact that she had had a mastoid operation, during which the sigmoid had been injured, her history and picture would be that of congenital lues, the sudden appearance of the symptoms of which oftentimes are noted after some operation for injury or intercurrent disease. Caries of the teeth is frequently seen during the increase in size of a brain abscess or tumor. Commenting upon the fact that her bad symptoms occurred four weeks after operation, I would like to say that the appearance of such symptoms at a time so far removed from the operation is usually the result of something not associated with the operation, although there is a possibility that the infection in the mastoid and consequently in the sinus at the time of operation in a worn out patient might be a very low grade and slowly extending leptomeningitis. I suggest that she did not have serous labyrinthitis, but that she did have basal disease. Had she had serous labyrinthitis, there would have been more disturbance in hearing than she seems to be able to remember. She tells me that when her nausea, vomiting and headache came on, four weeks after operation, there was no change in the hearing of the ear on that side. At the time of the first examination I stated that I had never seen a hearing test like hers in any condition other than lues,

consequently I believe that she had lues. Of course, she might also have cerebellar abscess, because the possibility of injury to the inner wall of the sigmoid sinus could not be absolutely ruled out. Consequently, I had a Wassermann examination of the blood made, but it was not positive. Being convinced that she did have lues, I sent over another specimen, and referred her at the same time to Dr. Parker whose report is above. The second Wassermann came back positive. This enables me to substantiate my clinical diagnosis of congenital syphilis, the manifestations of which are brought into evidence following the mastoid operation.

Hearing tests have been made on three sisters of the patient, one four years older, one two years older, and one two years younger than the patient. These hearing tests developed the fact that in all cases the bone conduction was decreased, while the ears were otherwise normal. This led to the opinion that they also had congenital lues, although no other definite evidence of disease could be recognized and their Wassermanns were negative.

The patient was now referred to the clinic of Neurology where she was examined by Dr. Camp, who discovered stigmata of hysteria, but stated that no evidence of gross lesion of the central nervous system had been discovered. In the absence of all neurologic findings, we had only otological findings upon which to make a diagnosis. The presence of nausea, vertigo, headache and rotatory spontaneous nystagmus of 1° to both sides, were strongly suggestive, while the fact that the after nystagmus was normal, and the reaction to caloric was marked and pointing faults were atypical were corroborative evidence.

Further report on this case will be made later.

DISCUSSION.

DR. UEO J. WILE: This case of Dr. Canfield's is of more than usual interest. I think it illustrates a number of points very strikingly. First, the importance of not operating upon patients who have syphilis in a latent period. Many complications of the disease other than the syphilis which is present are likely to arise, and the syphilis itself is often made worse by such procedure. It is, of course, often impossible to determine in any given case whether there is a lues present or not. But a case such as this illustrates the importance of submitting every patient who is to be operated upon, certainly to a careful examination and a blood test before operating upon him. I am sure that the surgeons will agree that a great deal of chagrin and injury could thus be saved.

Secondly, the possibility of both these conditions being present, as Dr. Canfield has brought out. The patient has symptoms of cerebellar abscess and basal

meningitis, and that is particularly interesting in view of the fact that the patient has become worse since her treatment was begun. That is in line with a very peculiar clinical fact when a suppurative condition is present in lues. The cure of the suppurative condition seems to light up the lues, and vice versa. It is difficult to understand just why this should be so, but it is a clinical fact that is undeniable.

The last point which I think is of great importance, is the valuable information that can be obtained from this hearing test, or loss of bone conductivity which Dr. Canfield has worked out so extensively. Since I have been in this service several cases of syphilis have been revealed to me which I should not have recognized, had it not been for this decreased bone conduction. And in these cases where there was no sign of syphilis present, where the Wassermann reaction was negative, subsequent history of the patient proved definitely that Dr. Canfield's contention was right and that there was a syphilis. I don't think that this patient had a Herxheimer reaction. This reaction usually occurs in the presence of a large number of spirochaeta, usually in the secondary period. It usually subsides very rapidly. It is under very rare circumstances strung out for a week or ten days.

I may say that many of our early cases of syphilis have been sent back with a report of decreased bone conduction in the first few months of the infection.

DR. CAMP: I don't feel that I can add very much to Dr. Canfield's exposition of this case. I believe the case was examined by Dr. Klingmann and I remember going over the case, looking especially for some signs of syphilis of the nervous system. To the best of my recollection I was unable to discover anything that would show that the patient had any diffuse syphilitic process of the nervous system.

DR. THEOPHIL KLINGMANN: There is nothing that I can add except that the examination was strikingly negative aside from the nystagmus which Dr. Canfield mentioned. So far as any signs of congenital syphilis are concerned, there is nothing we can demonstrate.

DR. CANFIELD: Three children in this family all have this decreased bone conduction in ears otherwise normal. That is the hearing test characteristic in lues, i. e. decreased bone conduction in ears otherwise normal. It occurs to me that it would be most instructive to make a Wassermann test upon her spinal fluid immediately before operation and then a test upon her blood and spinal fluid after she has gotten well.

In answer to Dr. Barrett's question I may say that as far as I know, no pathologic material is available to demonstrate decreased bone conduction in lues. This observation was first made about ten years ago when I was working in the clinic at Halle. I noticed that a child with interstitial keratitis and a suppurating ear had a decreased bone conduction which could not be explained upon the basis of a suppurating ear condition. We then sent out into the countryside and brought in a considerable number of children in families that we knew were specific, and we demonstrated a decreased bone conduction in a certain number of them, and it appeared before the keratitis. Every case of this kind so far as I know,

in an otherwise normal ear, is luetic; and there is no pathologic material otherwise available for this work. However, it seems to me it might be explained upon the basis of a mild low grade basal cerebro-meningitis. It has been so firmly fixed in my mind that this is an important symptom that Dr. Wile and I are now exchanging patients frequently, in many of which we are able to demonstrate this decreased bone conduction, in a much greater number, I am sure, than has been suspected.

While it is not always present paretics I have been able to demonstrate it in a number of instances.

I don't want to be understood to say that every patient having a decreased bone conduction is specific, but every patient having an otherwise normal ear and decreased bone conduction is a specific patient.

OSTEITIS FIBROSA WITH THE REPORT OF A CASE.

JAMES VAN ZWALUWENBURG, M.D.

(From the Department of Roentgenology, University Hospital).

The patient whose radiograms I shall show you by lantern slides came to the Hospital, accompanied by his home physician for diagnosis of an obscure condition affecting both hips and supposed to be tuberculous.

He was about 14 years old and for a number of years had complained of indefinite deep-seated pain in both hips, beginning first on the right, and later on the opposite side as well. With this had developed a peculiar gait and some deformity. Several months previous, he had met with an accident, supposed to be a fracture of the right femur from very inadequate cause. An X-Ray had been taken with a small outfit, but the resulting plates were not very satisfactory, and the physicians in attendance were unable to interpret them. He was treated as a case of fracture of the neck and recovered with an exaggeration of the deformity which had been noticed before.

The boy was otherwise well built. He walked with a waddle which strongly suggested double coxae varae. His thighs presented a very marked deformity with an outward and anterior bending of the femora and an apparent shortening of this portion of the extremities.

The X-Rays which will be shown later, were interpreted as those of "osteitis fibrosa," sometimes called von Ricklinghausen's disease.

This condition had been occasionally seen previous to the X-Ray era. Virchow has described several cases seen at autopsy, and studied histologically. Other isolated cases of unusual "bone cysts" occur in the literature. With the use of the X-Ray, the number of cases increased rapidly. Still the condition must be considered a rare one.

Von Ricklinghausen, in 1904, published his observation on cases occurring in adults and characterized by a substitution of the normal bony tissues of the diaphyses by a fibrous tissue. The radiograms revealed sharply circumscribed areas of diminished opacity usually longitudinally striated, but without involvement of the periostium or the formation of distinct bony shells about them. The disease is insidious in onset and, except for the deformity and liability to spontaneous fracture, runs a benign but slowly progressive course. The lesions are usually multiple and symmetrical. The diaphysis of the long bones of the lower extremity are the sites of elections, although it has been found in other of the tubular bones and even in the ribs. The flat bones are spared.

With the substitution of fibrous for osseous tissue, is often found the formation of cystlike areas, more or less globular, without tissue differentiation of the interior as seen on the plates. They do not break through the bony cortex, and excite no periostitis in the neighborhood. Although spoken of as cysts they are probably not hollow cavities filled with fluid, but highly vascular and cellular masses, and accordingly have given rise to the opinion of many pathologists that this condition is neoplastic in nature.

Where a considerable length of the long bone is involved there is an increase in its long diameter. This is well shown where the tibia is affected and fibula escapes. Here, the increased length of the tibia cause the development of curvature, often resulting in a well developed double reverse or "S" curve.

More recently, Miculicz has attempted to differentiate a similar disease occurring in early youth and characterized by a greater tendency to cyst formation and with less well marked longitudinal striations. This he calls "*Osteodystrophia juvenilis cystica*." The majority of observers, however, believe the true condition identical except insofar as the pathology is modified by the normal tendency to growth in immature individuals.

To the initiated, the differential diagnosis on radiographic ground is comparatively simple. From the inflammatory diseases of the bone, viz. osteomyelitis, tuberculosis, and syphilis, it is distinguished by the absence of any evidence of secondary reaction in the neighboring tissue, (sequestration and periostitis). From rickets, it is distinguished by the absence of the characteristic changes in the epiphyses. The neoplasms offer greater difficulties. Multiple metastatic carcinoma may give very similar pic-

tures, without, however, the striations characteristic of this condition. Sarcomata rarely occur as multiple lesions, show an early tendency toward rupture through the bony cortex and frequently show bony spicules as slender striations radically arranged from the point of primary growth. Primary multiple intraosseous enchondromata are rare except on the fingers and toes, although they do occur in the long tubular bones. According to Rumpel their characteristics are, a sharp demarcation from the surrounding osseous tissues, early deformity of the cortex by pressure from within, changes in the architectural arrangement of the bony trabeculae in the immediate neighborhood and their partial absorption with substitution of structureless cartilage, thinning of the cortex without any evidence of periosteal irritation. Between these two the diagnosis may be very difficult, but usually the striations already mentioned as characteristic of this disease is easily found and serves to establish the diagnosis.

To the uninitiated the condition presents many difficulties and many cases have been subjected to curettage under the suspicion of an osteomyelitis or have undergone amputation for sarcoma. Neither of these procedures is warranted by the benign, slow growing nature of the disease. Even the spontaneous fractures usually heal kindly with abundant callus formation under the ordinary routine treatment.

If we concede the propriety of separating von Ricklinghausen's from von Michlecz's disease as a separate entity we will probably have to classify the case under discussion with the latter as "*Ostiodystrophia juvenilis cystica*." The occurrence of the so-called cyst in the adults, the presence of the striation in the very young, and the numerous transitional forms all justify us, we believe, in accepting the essential identity of the two conditions and in adhering to the older name and the earlier conception of the disease.

DISCUSSION.

DR. C. G. DARLING: I fear that I must plead guilty to the doctor's last plate. This patient presents a very remarkable history. At least it coincides very clearly with the case of the patient which I expect to report later. This was a patient with a diagnosis of a sarcoma, and because objection was made to amputation, the patient consulted me. My only reason for disagreeing with the diagnosis was the fact that a thin shell of bone still remained. I removed the material from this cyst, sent it to Dr. Warthin, who pronounced it sarcoma. The patient wished to know if there was any way of avoiding amputation. I told her that there was some possi-

bility of good from the treatment of Coley's serum. I have had her under observation for over a year, and there has been no sign of a return of the disease. This brings out very prominently the point which Dr. Van Zwaluwenburg made about the danger of making a diagnosis of sarcoma in some of the cystic formations of bone, or the patient has a sarcoma and has been cured by Coley's serum.

PARAPLEGIA DOLOROSA TERMINATED BY APLASTIC ANEMIA—ANEMIC CHANGES IN THE SPINAL CORD.

JOHN W. SHERRICK, B.S.

(From the Neurologic Clinic, University Hospital).

The case that I wish to report is important, clinically, chiefly from the point of view of diagnosis but is also interesting with reference to the apparent etiology of the condition. From the pathologist's point of view there are a number of things which are distinctly unusual. I would call especial attention to the coincidence of the changes in the spinal cord characteristic of anemia, with paraplegia dolorosa which is due to carcinoma or other malignant tumor of the spine. Also the question as to whether or not the aplastic anemia in this case was due to the extensive involvement of bone marrow. The extensive destruction of the pancreas, without apparent symptoms due to loss of function of this organ, is interesting and also the very peculiar metastatic distribution of the tumor in this case.

The patient, Andrew G., was admitted to the Neurologic Clinic of the University Hospital July 8, 1914. He was a railway mail clerk, 30 years old and unmarried. His family history was negative except that his paternal grandmother died of cancer. His parents and eight brothers and sisters were living and well. The patient was a man of good habits and had enjoyed good health up to his present illness. There is no history of typhoid fever and no venereal disease. He was injured in a railroad wreck in December, 1913, being thrown against a mail rack, bruising his back. He went back to work immediately and continued work until some time in May, though suffering from pains in the back and "sharp, shooting pains" in different parts of the body, especially the legs and from the waist downward, although at times he had them in the left arm. Treatment by his home physician for rheumatism with aspirin, phylacogen, etc., did not relieve the pains and he was forced to take large doses of morphine. Anesthesia and weakness in the legs appeared

gradually and for two weeks before his admission to the Hospital he was confined to a wheel chair, during which period he had incontinence of feces and retention of urine.

On his admission it was noted that he was a well built, well nourished man. His skin was pale but warm, smooth, moist and elastic, panniculus moderate, and musculature firm. There was no enlargement of the thyroid gland or cervical lymph nodes. Examination of the thorax was negative. The heart beat was strong, muscular sounds predominating; there were no murmurs. It was impossible to make a satisfactory examination of the abdomen because the patient could not lie down on account of pain in his back. The back was negative on inspection but in the lumbar region the spine was tender at the place where he said he was injured in the railroad accident; no deformity could be felt. There was marked edema of the feet and ankles, with pitting on pressure. The temperature was normal; pulse averaged around 100 per minute and respirations about 20. His blood pressure was 150 mm. Hg. A catheterized specimen of urine was amber colored and acid reaction; albumin positive by heat and nitric acid and acetic-ferrocyanide tests; glucose negative; and microscopic examination showed no crystals, no red blood cells, some white blood cells, epithelium and numerous hyaline and granular casts. At a subsequent examination (July 16, 1914) there was noticed a white precipitate in the urine, which appeared well below the boiling point, probably a small amount of Bence-Jones albuminose. An examination of the feces showed a normal, formed stool, greenish brown in color, no food remains. Microscopic examination showed no fat, no parasites, no mucus, no starch, and no meat fibers. The Guaiac-turpentine test was positive.

At this time the patient was mentally somewhat confused, possibly due to the morphine he had had. The pupils were equal, the left responded promptly to light, the right was a little sluggish, both reacted in accommodation. There were no extraocular palsies, no nystagmus. The tongue protruded straight, no tremor nor atrophy. There was no facial palsy and speech and deglutition were normal. The biceps and triceps reflexes were prompt; and there was no ataxia, no atrophy and no deformity in the upper extremities. He could flex and extend his knees but weakly and could not stand. The knee jerks and Achilles reflexes were absent. Plantar irritation caused no distinct movement of toes on either side. There was no atrophy nor

deformity of the legs. He had retained sense of motion and position in the toes and normal pain sensibility, but had some difficulty in localizing sensations below the knees. The eyegrounds appeared normal.

A Wassermann reaction on the blood was negative.

As a result of the history and examination to this point three diagnoses were considered: traumatic myelitis, traumatic osteitis of the spine and tabes dorsalis. A traumatic myelitis could be fairly definitely excluded by the history of the very slow onset and the time which elapsed before there were any paralytic phenomena; also by severe sharp pains which are very uncommon in chronic myelitis. A disease of the spine, with secondary involvement of the cord, by pressure on it and upon the spinal nerve roots would explain the symptoms. The sharp pains, the lost tendon reflexes in the lower extremities, and the apparent slight sluggishness of the pupil to light suggested the possibility of tabes. To settle this question, a lumbar puncture was attempted by Dr. Camp, July 10, 1914. The needle passed in with no resistance but no fluid was obtained on repeated attempts. It was observed that the needle was apparently passing through the lamina of the vertebra with very little, if any, more resistance than through soft tissues. Some bloody material was aspirated from this softened bone and examined microscopically. The specimen contained cells of the bone marrow and Dr. Warthin, who was asked to examine the specimen, could find no definite tumor cells, although these were specially looked for. Giant cells were found but it was impossible to differentiate them from bone marrow cells. The evidence was conclusive, however, that some definite pathologic process was at work, causing softening of the bones of the spine and with the finding of only bone marrow cells in the aspirated specimen, it was thought that this might be either myeloma or chloroma. This conclusion received some support from the X-Ray report, which was that the first to the fourth lumbar vertebra was normal, "the fifth lumbar was indistinct with upper border hazy," "no distinct pathology" (Dr. Van Zwaluwenburg), a report which is compatible with a process causing softening without gross destruction. The diagnosis of destructive disease of bone marrow was further supported by the blood examination, July 20, 1914, at which time the red blood cells were 1,520,000, white blood cells 7,560, and hemoglobin 23 per cent. The stained specimen was examined in the Medical clinic

and reported as "severe secondary anemia" and was examined by Dr. Warthin who considered it typical of "aplastic anemia."

The blood examination, July 22, 1914, showed 11 per cent. small lymphocytes, 4 per cent. large, 2 per cent. transitionals, with 83 per cent. polymorphonuclears. Degenerate cells were rather numerous and careful search showed only three normoblasts and two megaloblasts. A rather striking thing in the blood picture was the small size of the red cells, the presence of (basophilic ?) granules in most of the polymorphonuclears, the apparent decrease in the platelets, and the absence of regenerative forms. Dr. Osler describes aplastic anemia as characterized by a progressive primary anemia met with in young adults, running a rapid course without remissions, with death occurring in a few months. The bone marrow is aplastic rather than hyperplastic. The color index may be low, hemorrhages are common and often very severe with purpura; there may be a leucopenia, and erythroblasts are generally absent. The blood picture in this case, together with the symptoms described above, is, on the whole, quite characteristic of this condition but differing somewhat in that we have here the bone marrow involved by a carcinomatous process which would not necessarily involve all the bone marrow.

The patient gradually became weaker and developed bedsores. He had repeated severe hemorrhages from the nose and from his puncture wound, some bleeding from the urethra and tarry stools. His penis and scrotum were edematous and catheterization was difficult. An examination by Dr. I. D. Loree showed no urethral obstruction, no enlargement of the prostate. On July 22, it was noted that the patient was irrational, very loquacious but jumped from one idea to another, did not recognize that he was in Ann Arbor or that he was sick, was anxious to get back on his "run," had very vague ideas of persecution, non-systematized. His mental condition was similar to that described as present in some cases of pernicious anemia, by Dr. C. D. Camp and others. He did not seem to suffer unless he was moved or handled. An examination of the organs of the thorax was negative. The abdomen was distended and too tender for palpation. The blood pressure was 120. His temperature that evening rose to 107° F, by axilla; pulse to 104; respiration 46; but the temperature dropped to 101° the next day. Blood cultures were made on blood agar and in beef bouillon, and

incubated, but they showed no growth. Blood counts were made daily from July 24 to July 28. The red cell count averaged around 950,000. The white cell count fluctuated between 3,800 and 15,000; hemoglobin, about 12 per cent., by the Miescher method. The leucocytosis is explained from the infection of the bed sores. The stools were examined on the 25th and 28th of July and were normal; no microscopic fat present. He developed numerous purpuric spots on the body and extremities, and grew gradually weaker. He died July 31, 1914, at 7:40 a. m.

A postmortem examination was made by Dr. A. S. Warthin, at 10 a. m., the same day. The report of Dr. Warthin is as follows; Primary carcinoma giganto-cellulare of the pancreas. The gland substance was almost wholly replaced by a neoplasm made up largely of stroma with nests of epithelial cells, carcinomatous in character and undergoing hyaline degeneration (chromatic necrosis and vacuolization). The tumor infiltrated the mesentery and retroperitoneal fat and there were secondaries (metastatic) in the vertebral bone marrow; retroperitoneal and bronchial nodes; periosteal and intravertebral discs, psoas muscles, adrenal capsules, and left testes. The testes showed patches of syphilitic orchitis. There were no secondaries found in the lung, kidneys, liver, or spleen.

The brain and spinal cord were removed and examined by Dr. Camp. No gross pathologic changes were present in the brain. The body of the sphenoid was so soft it could be cut with scissors and a piece was removed for microscopic study. The spinal dura was firmly adherent to the bodies of the vertebra and there appeared to be a thick extradural exudate which, at about the level of the twelfth thoracic segment, manifestly compressed the spinal cord. Microscopic examination of the central nervous system showed the brain to be normal. The spinal cord showed no infiltration of the pia, and no changes in the bloodvessel walls. There was a diffuse, non-systematic degeneration of the spinal cord which was most marked in the thoracic region and which was of the type described as due to severe anemia. In additional sections from the lowest thoracic segment there was an area of softening in the lateral column. The Marchi osmic acid stain showed a recent degeneration diffused throughout the entire white matter of the cord, not confined to the areas of anemic degeneration. At higher levels this recent degeneration was systemic and included the columns of Goll and the anterolateral

ascending tracts. It would appear that two distinct pathologic processes were present; first, a compression myelitis in the lower thoracic region and, second, the spinal cord changes due to severe anemia. The extradural mass was composed of tumor similar to that described by Dr. Warthin as giganto cellular in the vertebra. Attached to a nerve root seen in a section of the first cervical segment there was a microscopic collection of these cells. Similar cells also infiltrated the second lumbar posterior root ganglion. It is likely that the other root ganglia were similarly involved. The ganglia showed very little, if any, degeneration.

The neurologic manifestations in this case are very satisfactorily explained by the necropsy findings. The slow onset following trauma, the sharp pains due to pressure upon and involvement of the posterior root ganglia and, finally, the paraplegia due to pressure on the cord itself. The aplastic anemia was probably accounted for by the medullary bone involvement and it in turn accounted for the characteristic anemia changes in the spinal cord which complicated the neurologic findings. There were apparently no symptoms indicative of involvement of the pancreas, no glycosuria, no fat in the stools, etc.

In attempting to explain the peculiar distribution of the metastasis of the primary carcinoma in the pancreas, the only theory that I can advance is the influence of the traumatism to the spine in determining its course.

I have to thank Dr. A. S. Warthin for the necropsy report and Dr. C. D. Camp for permission to report this case from his clinic and for the report of the microscopic examination of the nervous system.

DISCUSSION.

DR. C. D. CAMP: I think Mr. Sherrick deserves great credit for his careful laboratory work which was of so much assistance in the diagnosis of this case. I was interested in this patient from the time of his admission to the Hospital. I well remember that the first diagnosis which presented itself was that of traumatic myelitis based on the history of the case and the obvious findings; but the fact that the condition was progressive, and also the fact that he had marked pains of a typical nerve root character, rather excluded that diagnosis. The loss of knee jerk and the characteristic pains suggested a diagnosis of tabes dorsalis. A careful neurologic examination excluded that diagnosis. The lumbar puncture evidence showed that we evidently were dealing with a tumor of the spine for it was possible to feel this tumor with the lumbar puncture needle. The microscopic examination of the material removed apparently showed no tumor cells, and that seemed to exclude carcinoma, but perhaps the strong-

est reason for making a diagnosis of myeloma was the aplastic anemia, which was characteristic and which developed before our eyes, going from a practically normal cell count down to 900,000. This, so far as I know, has not been reported in cases of metastatic carcinoma of the bone marrow, and there are only a few cases on record where it has been found in myeloma or chloroma.

It is also interesting why this man should not have had any signs of involvement of the pancreas when Dr. Warthin reports that the pancreas was almost totally destroyed. I feel sure, however, that he had no such signs. The stools and urine were examined daily.

DR. VAN ZWALUWENBURG: I may be allowed to say a few words concerning the radiograph of this spine. Diffuse carcinoma of the spine can only be recognized by a loss of contrast compared with the normal. It follows from this that the radiographer must develop a very definite technic so that he may be able to tell the difference between a poor plate due to poor technic and one on which the spine shows poorly for reasons of its own. This is the second case in which I have made this error, simply because my technic was not sufficiently perfect for me to recognize that the fault was not mine, but was due to the pathology.

A CASE OF MYELOGENOUS LEUKEMIA TREATED WITH BENZOLE AND ROENTGEN RAY.

HARRY B. SCHMIDT, M.D.

(From the Clinic of Internal Medicine, University Hospital).

A. G. male, age 32, farmer, American, married, entered the University Hospital, Nov. 23, 1913, complaining of enlargement of the abdomen and shortness of breath. Family and personal history are negative. Present illness began June, 1913 with progressive weakness. In October, 1913 he became short of breath and noticed a dragging pain in the left side under the short ribs. This pain has gradually become worse. Aside from losing twenty pounds in weight and an occasional slight fever for the past month, he has no other complaints. He has never noticed any hemorrhages into the skin, his stools have never been tarry, nor have they contained fresh blood. He has never vomited and never has been jaundiced. He denies syphilis. Physical examination showed at the time of entrance, an anemic, poorly nourished male, temperature 99.6°, pulse 80, respiration 20. The tonsils were negative, slight general glandular enlargement. Examination of the thorax was negative excepting for flatness on percussion, absent tactile fremitus and breath sounds below the fifth rib, left side. The abdomen was above the level of the ribs, larger over the left upper than the right. A large tender mass was palpated in the left upper ab-

domen, perfectly smooth and firm, with a rounded edge, which was notched on its upper margin. This mass extends from the left costal border to the left iliac crest and two fingerbreadths to the right of the medium line. The liver has palpated four fingerbreadths below the right costal margin. It has a perfectly smooth, sharp edge. There is dullness corresponding to the mass over the abdomen and extending to the fifth rib in the midaxillary line. On the 28th day of November the patient complained of severe pain in the upper left quadrant and a leathery friction rub was heard over this area at that time. Laboratory findings, including a Wassermann, were negative, excepting the blood, which showed on entrance 3,310,000 reds, 492,000 whites, 44 per cent. hemoglobin (Miescher). Differential count, 400 cells, showed 9 per cent. lymphocytes, transitionals 2 per cent., neutrophilic polymorphonuclear cells 24 per cent., eosinophiles 1 per cent, myelocytes 60 per cent., large numbers of normoblasts and an occasional megaloblast. On November 25, the patient was placed on one-half gram benzole combined with the same amount of olive oil four times a day. Blood examinations were made frequently and the benzole gradually increased, as will be seen in chart on next page.

On December 7, 1913, the spleen had receded about one fingerbreadth to the left of the median line. On September 16, 1914 the spleen was found to be about the same size as formerly. Examination Nov. 1, 1914 shows that the patient has gained in weight, is feeling well and has no complaints. His color is very good. The patient's friends tell him that he has never looked better in many years. There is flatness below the seventh rib extending down to within one and one-half fingerbreadths of the iliac crest. The spleen is palpated two and one-half fingerbreadths to the left of the umbilicus. There is a small ecchymotic spot over the right knee, which is possibly due to trauma.

On examining the above chart, the case shows a rise in the white count to 500,000 on December 30, 1913. After thirty-five days of treatment there is a sudden fall to less than one-half the above amount. From then on there is a very gradual decline to 23,000 on May 5, 1914. Following this a gradual rise of 373,000 on September 1, 1914, when the benzole was stopped and Roentgen rays began, and again the white count fell gradually to 58,000 on Nov. 2, 1914. During the treatment with the benzole and accompanying the decline of the white cells, there was a gradual decrease in the percentage of

DATE	RBC.	WBC.	HEMO. per cent.	MYEL. per cent.	REMARKS
11-23-'13	3,310,000	492,000	44	60	11-25-'13 Benzole gram. ½ four times day.
11-28-'13	2,900,000	445,000	42	55.5	11-30-'13 Bladde's pills in ascending doses after method of Geo. Dock.
12- 3-'13	2,600,000	326,000	42	58	12-5-'13 Benzole grams. .75, three times a day.
12- 7-'13	2,800,000	318,000	47	45	12-7-'13 Benzole omitted. Out of stock.
12-10-'13	2,370,000	354,000	44	69	12-8-'13 Benzole begun again.
12-14-'13	2,070,000	394,000	47	69	12-11-'14 P. M. temp. 100° Benzole increased to one gram, 4 times daily.
12-17-'13	2,930,000	428,000	47	51.4	12-15-'14 Benzole grams 1.25, 4 times daily.
12-26-'13	3,400,000	424,000	53		12-19-'14 Discharged on ascending doses benzole, beginning 5 grams a day.
12-30-'13		500,000	52		
1- 6-'14	2,920,000	308,000	62	52	
1-14-'14	3,130,000	230,000	60		From June 15, 1914 to Sept. 1, 1914 patient was taking 12.5 grams per day.
1-20-'14	4,000,000	126,000	68		
2- 3-'14	4,500,000	95,000(?)	65(?)		
2-17-'14		160,000	70		
2-25-'14		115,000	70		
3- 3-'14		112,000			
3-10-'14		72,000	80		
3-17-'14		65,000	78		
3-24-'14		52,000			
3-31-'14		40,000	88		
4- 7-'14		35,000		28	
4-14-'14		33,000			
4-21-'14		25,800		42	
4-28-'14		29,000			
5- 5-'14		23,000			
5-19-'14		31,000			
6- 4-'14		33,000			
6-11-'14		60,000			
6-19-'14	4,150,000	120,000	80		
7- 3-'14		101,000			
7-31-'14		170,000			
8-14-'14		202,000	68		
8-21-'14		240,000			
9- 1-'14		373,000			Benzole stopped X-Ray began.
9- 3-'14		420,000			
9- 4-'14		385,000			
9- 7-'14		462,000			
9- 8-'14		481,000			
9- 9-'14	3,240,000	320,000			
9-11-'14	3,235,000	373,000	53		
9-14-'14		254,000			
9-15-'14		318,000(?)			
9-16-'14		256,000			
9-17-'14		278,000			
9-18-'14		238,000	57		
9-19-'14		246,000	57		
9-20-'14	3,280,000	246,000	57		
9-21-'14		242,000			
9-22-'14		216,000			
9-23-'14		214,000			
9-24-'14		204,000			
9-25-'14		161,000			
9-28-'14		170,000			
9-30-'14	3,920,000	182,000			
10- 2-'14		170,000			
10- 3-'14		180,000			
10- 4-'14		152,000			
10- 5-'14		142,000	65		
10- 6-'14		126,000			
10-10-'14		102,000			
10-14-'14		102,000			
10-17-'14		60,000			
10-21-'14		76,000	66		
10-23-'14		52,000			
10-28-'14		84,000			
11- 2-'14		58,000			
11- 5-'14	4,500,000	70,000	65		

The counts in this chart were made by several observers and where there were any discrepancies the findings were checked by same or another person, except where marked with question.

myelocytes and the size of the spleen. The myelocytes, however, have always been present throughout this observation, which has extended over a period of eleven months. At no time has the patient complained of symptoms from the benzole. The hemoglobin and the red count

shows a corresponding improvement during the treatment.

This case conforms to the general run of such cases reported in the literature, in that there is a sharp rise of the beginning of treatment, following which, after about a month there is a sudden fall. Usually in cases with counts above 200,000, the fall is never more than two-thirds the original count. In cases below 200,000 the counts frequently reach normal or below and may remain there for several months. This case shows a gradual decline to 23,000, which is less than one-twentieth the original number. The count does not remain here, however, for there is a gradual rise to 373,000. We have no explanation to offer for this phenomena other than that probably the patient had developed an immunity to the benzole and would not react to further treatment.

A number of observers claim that benzole is very effective when given in conjunction with the X-Ray. We thought best to treat the patient with each separately until no further improvement was apparent and then to try them together.

In 1908 Dr. Barke (1) observed three cases of grave aplastic anemia with a striking leukopenia, apparently caused by exposure to crude benzole. Prompted by the observations on this series of cases, Dr. Selling (2) published experimental evidence to show that this drug had a powerful leukotoxic action. In 1912 Koranyi (3) influenced by the above reports used this drug with favorable results in cases of leukemia. Later his pupil, Kiralyfi (4) reported seven cases with good results: soon after this Stein (5) and Stern (6) report favorable cases following which Dr. Frank Billings (7) of Chicago, added five others, encouraging its further use. Following these reports and up to the present there are over fifty cases reported in the literature. However, not all reports are optimistic. Wachtel (8) mentions two cases where he had to stop benzole because of albuminuria. Koranyi (9), himself reports two failures with benzole, but here the Roentgen-ray also failed. Klemperer (10) and Hirschfeld (10), regarded it as a dangerous remedy, because in their experiments it caused serious injury in animals. Two other observers (11 and 12) note that either coincident with or subsequent to benzole treatment, their cases took on an acute form and succumbed. Some observers comment on the lack of uniformity in the action of the drug; in all cases it reduces the white count, but not always to normal. In others it may reduce the

spleen to normal and have but little effect on the white cells. Pappenheim (13) found necrosis of the liver in rabbits given benzole. There had been a few cases reported of necrosis of the liver following this treatment in human beings. The most striking effects are seen in the myelogenous form of leukemia, while there is an occasional success reported of the lymphatic type, though the X-Ray seems to be more efficient in the latter disease. No cases have been reported where myelocytes entirely disappeared from the circulation, so apparently this remedy cannot be regarded as a specific. It is a remarkable drug, spectacular in its effects but deserving of a great deal of caution in its administration. This will restrict its use to hospital patients almost exclusively. Koranyi advises that the drug be stopped when the leucocytes reach 25,000. The permanency of the effects and the question of absolute cure, the future will have to settle.

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DISCUSSION.

DR. J. G. VAN ZWALUWENBURG: The X-Ray treatment of leukemia is well established, and, almost without exception, both the lymphatic and the myeloid type react promptly to its administration. It is very difficult, however, in a disease which naturally shows the exacerbations and remissions which all these leukemias present, to judge the exact effect of any remedy.

In general, the principle of giving the X-Ray treatment is to give enough to practically destroy the leucocytes and their progenitors; and in order to do this, a sufficient dose must be given. At the present time practically every one uses a ray as hard as possible to get into the depths of the splenic tissue and do as much damage as possible. For several years the treatment has been haphazard. Even

now there are two camps; the members of one believe in massive doses, the other camp believes in giving small doses every day with the idea of keeping the body constantly saturated to the point of intoxication. We have no means of measuring the amount of doses given, and the effects do not wear off for twenty-one days. It is therefore somewhat hazardous to give an underdose, and not a large dose at longer intervals, because a toxemia gradually develops. Treatment must be cautious and gradual until the patient gets used to it, until he gets the full dose.

Under these conditions leukemias show remissions of longer and shorter periods. I remember one case which we treated here repeatedly with X-Ray. He came back for four years. Ultimately the malady becomes refractory. In this case the white count went back to 4800, well below the normal before he was allowed to go home. Even then myelocytes were present. I think we may say that a normal differential is practically never reached. Recently I began using the Coolidge tube on this man, and by reason of our ignorance, he has probably been slightly underdosed for the past few weeks. I am now giving him a full dose from four ports of entry, three over the spleen and one over the liver, at two day intervals. That makes a session of twelve days and he goes home for a few days between times. I expect that he will improve still further, but I am just as confident that ultimately he will again relapse.

RESECTION OF THE GASSERIAN GANGLION FOR TRIFACIAL NEURALGIA COMPLICATED WITH FACIAL PALSY.

WALTER A. HOYT, B.S., M.D.

(From the Surgical Clinic, University Hospital).

The patient, Mrs. E. C., age 61, of Centralia, Ill. entered the University Hospital in the Neurologic Clinic on May 1, 1914, and was later transferred to the Surgical Clinic. The patient complained of pain in the left side of the face and paralysis on the same side.

Family History.—Patient's father died of blood poisoning at 39, and her mother died at 68 years of cancer of the face. Her four brothers are living and well and two sisters are dead, one dying of pneumonia and one of tuberculosis. There is no history of nervous or mental diseases in the family; no kidney trouble nor diabetes.

Previous Medical History.—Patient has had the usual children's diseases with good recovery. She has never had typhoid, pneumonia nor chronic cough. She has four children living and well, and two dead. There is no history of miscarriages, hemophilia, nor of venereal diseases.

Present Trouble.—For the past four or five

years the patient has had slight attacks of pain in the head and face. Two years ago she had her teeth removed, because they were decaying and apparently causing pain. A short time following this she had a sharp pain in the left lower jaw, and this recurred two or three months later. In August, 1913, the patient began having very severe paroxysms of pain especially in the lower distribution of the fifth nerve, requiring morphine for relief. The pains grew worse and more frequent, and in December, 1913, she had the nerve of that side injected. She had six injections in all, given below the zygoma, and following the last injection she developed a facial palsy. After one of these injections the patient had relief from pain for three days. The patient is unable to eat, cannot swallow well, and articulates very poorly. She has lost sixty pounds since last August. The patient has more or less constant pain especially in the lower branch of the trifacial, and slight paroxysms are brought on by eating or by anything that touches the face. If a paroxysm develops while eating she is unable to swallow. The pain is very severe and can only be relieved by hypodermic injections of morphine. Because of the long duration of the pain and its severity the patient has on several occasions threatened suicide.

Neurologic Examination.—There is practically complete left facial palsy. She cannot elevate the left eyebrow, cannot close the left eye, and cannot draw back the left corner of the mouth. The extraocular movements are normal, and there is no nystagmus. The pupils are equal, react to light and in accommodation. There is no difference in sensation of light touch or pin point on the left side of the face; no anesthesia; no atrophy or deformity of the tongue; no marked stigmata of degeneration and no atrophy or deformity of the hands. The biceps reflexes are present, equal and about normal. The triceps reflexes are present, equal and normal. The knee likewise; the Achilles jerks are prompt, equal and normal. She says she has had no numbness in her feet and gait and station are normal with eyes open or closed.

Urine examination showed specific gravity 1020, reaction acid, albumen and glucose negative, sediment negative except for a large number of amorphous urates.

Blood examination showed red blood cells, 4,900,000, white blood cells 7,800, hemoglobin 90 per cent.

The patient was referred to Dr. Canfield who

found the otologic examination negative. X-Ray examinations made by Dr. Van Zwaluwenberg were also negative. Wassermann examination on the blood was negative.

A diagnosis of trifacial neuralgia affecting the second and third division was made, and the patient was operated May 6, 1914 in the Surgical Clinic by Dr. De Nancrède for removal of the Gasserian ganglion. The so-called Hutchinson method of exposure was carried out. An oval musculocutaneous flap was reflected having the base at the zygoma and its upper end one and one-half inches above, its posterior border running toward the condyle of the lower jaw. The fascia of the temporal muscle was incised and about three-fourths of an inch of the zygoma was resected between the external auditory meatus and the external angular process of the frontal bone. The opening was then enlarged as far as the infratemporal crest, at this point the middle meningeal artery being ligated. The dura was then detached from the floor of the middle fossa and the brain retracted with spoon retractors. This exposed the ganglion and the inferior and superior maxillary divisions, passing out through the foramina, rotundum, and ovale. The dura covering the ganglion was incised and ligatures passed around the second and third divisions at either exit. These two roots were then cut across and with mouth tooth forceps and narrow bladed knife the outer two-thirds of the ganglion was removed leaving the ophthalmic branch and the inner third. Considerable hemorrhage was encountered when the ganglion was disturbed. This was controlled effectually by small sponges and tampons applied firmly over the ganglion. A small cigarette drain was placed in the wound and the wound closed with catgut and horsehair. The operation lasted about two hours. Ether anesthesia was administered and the patient reacted well and showed no signs of shock. Following operation a watch glass was held in place by adhesive over the left eye, and the eye washed three times daily. The cigarette drain was removed on the second day, and the wound found to have healed by first intention except one small area where a little sloughing of the skin took place. The patient was discharged from the Hospital on May 24, 1914, eighteen days after operation.

Examination Following Operation.—Immediately following operation, the patient complained of pain in the left side of the face and posterior to the ear. This, however, was only of twenty-four hours' duration. Neurologic

examination ten days following operation showed that the patient had no pain and could talk and laugh. She complained that the only abnormal feeling was a slight numbness in the left side of the face. She still had complete left facial palsy and the left side of the forehead was a little wrinkled and she could not close the left eye. She drew back the left corner of the mouth slightly better than the right, both voluntarily and in smiling. The tongue protruded in a straight line; there was no tremor, no atrophy, and no difference in the two sides. There was a slight numbness in the left side of the tongue, and sometimes water would drool from the left corner of the mouth, but she did not feel it. The left masseter, and the left temporal could not be felt to contract. The left side of the tongue was analgesic and also anesthetic, while the gum on the left side of the mouth was analgesic to pin point both above and below. The analgesia extended back to the anterior pillar, but could not be definitely determined beyond this. When the patient opened the mouth very widely the lower jaw deviated to the left. Sense of taste was preserved for "sweet and sour," and she said these substances were felt on both sides of the tongue equally, except that "sour" stung more on the right side.

Anesthesia to light touch was found extending from the median line laterally for about two and one-half inches and reaching from the lower border of the orbit to the angle of the jaw. Anesthesia to light touch and analgesia to pin point were present only on the upper lip. In other parts of the face sensation was equal on the two sides.

The ganglion was examined by Dr. Warthin with the following report: "A ganglion showing atrophy and chromatolysis of some of the ganglion cells, calcareous concretions and an interstitial increase of the nuclei."

The patient was examined by her home physician a few days ago and he states she is happy and entirely free from pain. She has gained thirty pounds in weight and can eat as well as she ever could. The facial paralysis has not changed and no keratitis has developed. Sensation is present over practically the whole left side of the face and there is very little deformity.

This case is of especial interest because of the complication with facial nerve paralysis of the same side. One of the complications of this operation is a keratitis especially where the ophthalmic branch is resected with the other

two divisions. With the patient unable to close the eye because of a facial paralysis, such a complication would almost invariably follow. It was mainly for this reason that the Hutchinson operation was decided upon. Where symptoms are present only from the two lower branches it is not necessary to disturb the ophthalmic branch, and thereby endanger the patient with keratitis. In operations removing the entire ganglion, the mortality is greater and the danger of damaging the cavernous sinus and the third, fourth and fifth nerves is greatly increased. Likewise the hemorrhage is less in the Hutchinson operation and the possibility of a two stage operation is lessened.

It is also very interesting to note in this case the rather small area of cutaneous anesthesia. With the cutting of the second and third divisions of the trigeminal nerve cutaneous anesthesia would be expected to extend from the median line to the ear laterally, and from the angle of the jaw to the orbit above. As has been shown in this case the area of anesthesia was not over two by two and one-half inches in diameter. This I find has been true in most of the cases reported. Zander showed some years ago that the distribution of the cervical and the trigeminal nerves overlap one another for a considerable distance. The return of sensation in this case and other cases must be accounted for by the presence of the cervical nerves rather than by any re-establishment of the trigeminal tract. Otherwise we would find also recurrence of pain which in this and other cases does not take place.

The pathogenesis of trigeminal neuralgia has not as yet been definitely worked out. Many ganglia removed from genuine major neuralgia have been examined in which demonstrable lesions of the ganglion or its divisions have been conspicuous by their absence. On the other hand, Cominiti has shown certain cellular changes in the ganglion of patients suffering from the *douloureux*; but the same change was found in cases where *tic douloureux* did not exist. As far as I can ascertain no definite pathology has been shown. The disease may be of central origin, that is, from a lesion in the ganglion, in the sensory root, or the ganglion may be involved primarily or secondarily to diseases of the peripheral branches. It remains for a lesion either peripheral or central to be found, a lesion which is both constant and characteristic in all cases before any definite conclusions can be drawn.

DISCUSSION.

DR. C. B. DE NANCREDE: I need not add anything to the discussion except to say that this case manifests the advantages of doing no more than is absolutely necessary, i. e., not removing the whole ganglion in every case. In certain respects the Hutchinson operation is more difficult than the removal of the whole ganglion, although some of the hemorrhage resulting from loosening this is lessened, and there is less chance of damaging the cavernous sinus and the ocular nerves. If ready access could be had to the ganglion intracranial operations on the ganglion or its branches could and should be done early, provided damage to the ophthalmic branch can be avoided, as is possible by the Hutchinson operation. Although the essentials of the intracranial work could be carried on probably in from five to ten minutes, if the operation were an external one, the inaccessibility, the circumscribed space rapidly filling with blood, necessitates repeated temporary tamponing and often excessively prolongs the procedure. Patience will usually overcome this difficulty aided by tying the middle meningeal artery; but even then the most skillful surgeons occasionally are compelled to temporarily abandon the operation either from serious loss of blood or its prolongation of the operation with the necessary manipulation of the brain causing shock. Tamponing with closure of the wound, the actual removal of the ganglion being made a few days later, after reopening the wound, then becomes a necessary procedure. This was done in one case in our clinic, where a colleague had to abandon the completion of the operation in one stage. A section of the sensory route is an easier operation than the one we adopted, but the sensation of the eye being lost, and the eyelids in our patient remaining permanently open, the chances of destruction of the eye were especially great.

THE VALUE OF THE TWO STAGE OPERATION FOR SENILE HYPERTROPHY OF THE PROSTATE.

HARRY H. M. MALEJAN, M.D.

(From the Genito-Urinary Clinic, University Hospital).

I wish to present tonight a few facts concerning the value of the double stage operation for senile hypertrophy of the prostate, and the advantage of the same over the one stage transvesical prostatectomy.

The retention of urine has marked effects on the renal and cardiovascular system, the most striking symptoms being loss of sleep, anorexia, general depression, loss of weight, constipation and high blood pressure. The patient may suffer from uremic poisoning, even though he passes 3000-3500 cubic centimeters of urine daily, the specific gravity being very low. The bladder undergoes marked change. Its wall may be hypertrophied and trabeculated, later losing its tone. There is a peculiar balance existing between the heart, kidneys, secretion of urine, and

their nervous control in the patient who has gradually become used to overdilatation of the bladder.

In such a case, where the patient has a blood pressure of 200 millimeters mercury, or higher; a urinary output of 3000 cubic centimeters or more, of low specific gravity, with fair phthalein content; no albumin nor trace of the same in the urine, upon the performance of suprapubic cystotomy under local, or general anesthesia, the patient, on or about the third day thereafter, begins to feel sick, showing slight symptoms of uremia. The urinary output is diminished to 500 or 750 cubic centimeters. The phthalein content drops to 15 or 20 per cent. and the urine boils solid with albumin. The blood pressure, however, being a trifle lower than before the operation, proves the peculiar balance existing in the nervous control of secretion of urine, kidneys and heart. Cystotomy alone brings about the disturbance of this balance, the condition lasting five or six days, after which the patient begins to improve generally. There is a more copious secretion of urine; the phthalein output is increased; less albumin occurs in the urine; and the blood pressure becomes still lower.

The foregoing changes are seen after simple suprapubic drainage of the bladder without loss of blood, or shock. If one adds to the above condition, the loss of blood, prolonged manipulation, and the shock attendant upon removal of the prostate, it is not remarkable that the mortality on the third or fourth day after such operations is high without apparent cause.

In view of these facts the double stage operation should be advocated in many cases of hypertrophied prostate, as being safer, and enabling the patient to stand the operation where, in many instances, he could not survive the one stage prostatectomy.

The following procedure is carried out in the double stage operation:

The patient is prepared in the usual manner, under local, or nitrous oxide anesthesia. The recti muscles are separated just above the symphysis pubis. The peritoneum is then stripped back and the bladder opened and drained. Several days following the first operation, the prostate gland is enucleated through the same incision.

The one stage operation is justified when there is no infection of the urinary system, where the blood pressure is low, when there is not much retention of urine, where the patient is well nourished and in good general condition,

and in cases where an indwelling catheter is employed for a few days subsequent to operation to relieve retention. The phthalein output is over 40 per cent.

The double stage operation is indicated in the following cases:

Cystotomy must be first performed:

1. When the patient has cystitis, orchitis, pyelitis with daily chills and fever, anorexia, irregular pulse, or marked depression.

2. When the bladder is enormously distended with urine and blood clots.

3. When the patient has a constitutional disease, such as diabetes, nephritis, tuberculosis, cardiovascular diseases, high blood pressure, mitral and tricuspid insufficiency, or stenosis.

4. When the patient is toxic from septic absorption or renal insufficiency.

5. When the patient cannot stand the indwelling catheter.

6. In the case of multiple degenerations incident to senility.

7. In cases of profound general depression resulting from prolonged suffering, loss of sleep, or general debility.

The following case is presented as being unusual on account of the patient's advanced age and general debility due to senility.

Dr. Loree at first declined to operate, but the patient insisted upon an operation, expressing his desire to be either "killed or cured."

H. J. B. age 81, occupation, retired farmer.

Complaint.—Retention of urine, and inability to urinate.

Family History.—Father died at 75 years of age. Mother died of paralysis at about the age of 70. Two sisters living, one 75 years and one 90 years of age. Two brothers and two sisters died of unknown causes. No tuberculosis nor chronic heart trouble in the family. No kidney trouble to patient's knowledge.

Personal History.—Had "typhoid malaria" at 50 years of age. Married fifty-eight years. Has one daughter, 56 years of age, who has trouble with lungs. Patient denies venereal disease. Chronic diarrhea for many years. This suddenly stopped, and has had chronic constipation ever since.

Present Illness.—About thirty years ago patient had retention, and was unable to pass urine on the start, and had often been slow to start for many years. This did not bother him until about five years ago in March, when he had to get up about forty times during the night. Urination was painful. About five years ago, after using a patent preparation for

urinary trouble he had retention. Called a doctor who passed a catheter and washed the bladder. He was sleepless and had pain in the bladder region. Bladder felt full and could not be entirely emptied. As a result of this latter condition, the patient, about four years ago, went to a hospital at Angola, Indiana where he spent ten weeks. Was treated by washing his bladder. Went to the Angola hospital a second time, remaining three weeks. Later he took osteopathic treatments which consisted of kneading his back. About three years ago he began to use a catheter, and has used one ever since.

The patient was examined August 11, 1914 by Dr. Hoyt. Diagnosis: Hypertrophied prostate with complete retention. Urine showed a moderate amount of albumin with many casts. The patient entered the Hospital September 18, 1914 with normal temperature, pulse and respiration. By the insertion of a permanent catheter, the urine cleared of albumin and casts. The phthalein output was 25 per cent. the first hour, and 10 per cent. the second hour.

On September 22, 1914, under drop ether anesthesia, transvesical cystotomy was performed by Dr. Loree. The patient reacted well. From the third to the eighth day after the operation he was very weak, uncomfortable, and had considerable pain. The amount of urine was diminished. The phthalein test was

tried twice but the percentage could not be estimated due to loss of urine through the dressings. After the eighth day the patient stated that he felt like himself again. He was up in a chair most of the time following the operation. On the nineteenth day after the first operation, the prostate gland was enucleated through the cystotomy opening under nitrous oxide anesthesia, the time of the operation being one and one-half to two minutes. The gland after removal was about the size of a lemon, soft, and irregular in outline. Pathologic report was cystic glandular hyperplasia. The bladder was packed with gauze and a drainage tube inserted.

Following enucleation of the prostate, the patient did not develop high temperature, the only notable result being severe pain during the first twenty-four hours due to the packing. The patient was up in a chair the fifth day, and began to pass urine through the natural channel on the eighth day. On and after the fifteenth day all urine was passed per urethram. The suprapubic wound closed and the patient made an uneventful recovery.

DISCUSSION.

DR. DEAN LOREE: Besides the double stage operation as mentioned by Dr. Malejan, I would place much emphasis upon the functional test of the kidneys, and nitrous oxide anesthesia. These three combined go far toward the success of the operation in a man of this age.

The Action of Iodids on Blood Vessels and Heart.—The iodids, especially potassium iodid, have been credited with having a blood-pressure lowering action and have been used extensively in the treatment of arteriosclerosis. D. I. Macht has demonstrated that the iodid ion, instead of depressing the heart and vessels, has a marked stimulating action and that if potassium iodid lowers blood-pressure it must be the effect of the potassium part of the compound (*Jour. A.M.A.*, Nov. 14, 1914, p. 1767).

Asepticones.—Asepticones, sold by the Chinosol Company, are vaginal suppositories stated to contain salicylic acid, boric acid, quinine and chinosol. On the basis of the evidence submitted the Council on Pharmacy and Chemistry voted that asepticones be refused recognition because unwarranted and misleading therapeutic claims are made; because the name does not indicate the potent constituents and because it was considered an unscientific shotgun mixture (*Jour. A.M.A.*, Nov. 14, 1914, p. 1778).

Bacillicide.—Bacillicide, sold by the Prophylol Products Company, Richmond, Va., is an unscientific solution of the Glyco-Thymoline type. It was refused recognition by the Council on Pharmacy and Chemistry because its composition is secret, because

unwarranted and exaggerated claims are made for it and because the use of complex mixtures of uncertain composition is unscientific and contrary to the best interests of the public (*Jour. A.M.A.*, Nov. 14, 1914, p. 1778).

Serum Vaccine, Bruschetini.—This vaccine, sold by R. G. Berlingieri, New York, has for its aim the destruction of the tubercular cell and the facilitation of its elimination by the natural expulsive processes. The manufacturer not having submitted proof of the value of the preparation, the Council on Pharmacy and Chemistry voted that it be refused recognition. Later, information was received that the preparation was now used only in slight cases (*Jour. A.M.A.*, Nov. 14, 1914, p. 1870).

Lysoform.—Lysoform and Crude Lysoform, made by the Lysoform Gesellschaft, Berlin, Germany, are solutions of potash-soap stated to contain respectively 6-7 and 10 per cent. of formaldehyde. These preparations were refused recognition by the Council on Pharmacy and Chemistry because unwarranted claims were made in regard to their efficiency and because their indiscriminate use for the treatment of diseases was recommended (*Jour. A.M.A.*, Nov. 21, 1914, p. 1870).

The Detroit Society of Neurology and Psychiatry

C. W. HITCHCOCK, Detroit, President
GUY L. CONNOR, Detroit, Secretary

The regular meeting of this Society was held at the Medial Club, Detroit, on December 3, 1914 with the President, Charles W. Hitchcock in the chair. There were twenty members present.

The minutes of the last (annual) meeting were read and approved.

Doctor Robert H. Haskell, of Ann Arbor, and Doctor Heinrich Reye, of Pontiac, were elected to active membership.

CASE REPORTS.

A CASE OF MULTIPLE SCLEROSIS, DR. C. W. HITCHCOCK: L. A. age 49, a peddler, married and the father of eight healthy children; born in Austria, was admitted to Harper Hospital, Nov. 20, 1914, complaining of weakness and an annoying tremor of the left hand and arm.

History.—The family history is meager and negative so far as known. His personal history brings out that he has never been sick and denies any venereal infection, that he uses no alcohol and has not smoked for the last five months, though earlier a heavy smoker.

His present illness began five or six months ago in a weakness of the left arm, followed by slight tremor which gradually increased and has been followed in the last four weeks by some pain in the arm. Has lately complained of frequency in urination. About five or six weeks ago he noticed a feeling of weakness and tremor in the left leg and two days before admission to the hospital began to have some tremor in the right arm. Since the onset of his trouble he has had frequent attacks of dizziness, palpitation and headache, and reports a loss of about twenty-five pounds in weight, no cough and no expectoration. Appetite has been good, elimination excellent; there has been no nausea, vomiting or abdominal pain. Of late, he has noted tremulousness of speech.

Examination.—Heart and lungs are negative, as also abdomen. He appears fairly well-nourished, takes on standing a rather relaxed position. When alone and at rest, but little or no tremor is manifest and if at all present is limited to the left hand and arm. This is at once increased by the presence of strangers, attention drawn to him or any emotional influence. It is tremendously exaggerated by any intentional effort, particularly of the left hand. He cannot convey to his mouth a full glass of water. The "intention" character of the tremor seems well demonstrated. Speech, he freely admits, is somewhat affected. He notices it as "shaky" in character. It is not typically scanning in type.

The pupillary reflex is normal, the fields of vision also, the media are clear. The fundus shows changes in vascular supply, arteries small, nerve head pale, veins irregular and fatigued, changes arterio-sclerotic in character. Edges of the disc are clear and well-defined.

There is no neuritis, no exudates, no hemorrhages. On careful inspection and repeated examination there seems to be some nystagmus present.

The Romberg symptom is well marked. The abdominal reflexes are absent, the cremasteric but slightly in evidence. The knee jerks are exaggerated, the left enormously so, its elicitation even provoking a contra-lateral response. There is bilateral ankle clonus.

No satisfactory Babinski, Oppenheim or Gordon is elicited.

Sensory.—There is some impairment of pain sense and temperature sense more especially in the right leg. There is no anesthesia or analgesia.

The Wassermann is negative.

Stereognostic sense is not impaired.

His signature is not tremulous.

Motor.—The gait is weak and shuffling, with a tendency to drag slightly the left foot. Attempts to walk backward or forward with eyes closed develops much ataxia. Attempts to use either hand with eyes closed greatly develops the tremor in each. His legs are somewhat spastic.

Diagnosis.—The case is by no means typical yet seems to answer best to the diagnosis of a multiple sclerosis.

Discussed by Doctors Inglis, Barrett and Hitchcock.

AN UNUSUAL CASE OF TABES DORSALIS WITH AN UNUSUAL THERAPEUTIC RESULT— DR. THEOPHIL KLINGMANN, ANN ARBOR.

History.—The patient a laborer of robust physique, 49 years of age, was admitted to the out patient department of the Neurological service in the University Hospital, on August 25, 1914.

He complained of numbness in the hands and feet, inability to stand or walk and pain in the legs.

In the reference to the family history he relates that his father died of asthma at the age of 63 and his mother at 64 of unknown cause. He has two brothers, both are well and one sister who died in childbirth.

The patient states he has had typhoid fever three times, malaria fever twice and two attacks of lung fever. He denies having had syphilis or gonorrhea.

Years ago he had a papular eruption all over the body which was of short duration and disappeared spontaneously. He has no children, his wife is insane (maniac—depressive insanity).

The present illness began two months before he applied for treatment at the clinic. He first noticed numbness in the hands and feet with continuous pain in the posterior part of the legs and pain in the neck. His appetite is not good but he has had no pain in the stomach region.

Examination.—The neurological examination at this time revealed that his pupils were equal and round but reaction to light was sluggish and rather slow in accommodation. The extraocular movements were normal, the facial expression was not peculiar and there was no facial palsy. The tongue was protruded straight without a tremor and there was no tremor of the lips. The grip of both hands was the same but not strong, there was no tremor or inco-ordination of the hands. He could not feel pin point over the dorsum of the hands and forearms. His station was normal with the eyes open but swayed considerable when standing with the eyes closed. There was no weakness in the lower extremities but carried the lower limbs rather rigidly in walking but no ataxia was apparent. There was an area of hyperesthesia over the outer third of the dorsum of the right foot, but otherwise there was no objective disturbance in sensation in the feet or legs.

The biceps and triceps reflexes were not obtained and the knee and Achilles jerks were lost. The plantar reflexes were normal on both sides, so were the cremasteric and umbilical reflexes. There was no disturbance of the function of the bladder. No treatment was prescribed at this time as he did not remain for a complete examination; but returned to the clinic and was admitted to the ward on September 14, 1914. In the meantime he had attempted to do hard work but soon noticed a rapidly progressive weakness in the extremities, with marked difficulty in standing and walking, and he could not always tell if his feet were on the floor. He also complained of stinging pain in the legs and about the chest. At this time he presented a markedly different clinical picture. He was unable to stand or walk without aid and there was a marked ataxia in the hands and feet. The pupils were small and the reaction to light was very sluggish, more prompt in accommodation. The extraocular muscles were normal, there was no facial palsy but a marked tremor of the lips and tongue. The elbow-jerks were absent also the knee—and Achilles—jerks on both sides. Plantar irritation caused plantar flexion of the toes of both feet. There was loss of the sense position and motion of the feet and loss of the sense position of the hands.

The general physical examination revealed nothing of importance, the urine examination gave a negative result.

The blood serum and spinal fluid gave a negative Wassermann reaction. There was no disturbance after the puncture, such as headache, nausea and vomiting. He left the Hospital on the twenty-second day. During his stay in the Hospital he received eighteen intramuscular injections of one-fifth gram of succinamide of mercury. During the first part of the treatment, beginning on the fourth day after admission, the patient complained of severe pain

around the areas of injection and severe headache with nausea and vomiting.

This continued for ten days, about this time he began to show improvement which was evident in all of his movements, the sensory disturbances of the legs and feet disappeared promptly and the patient was able to walk with the aid of crutches. The improvement progressed steadily and he was soon able to walk without aid. Before leaving the Hospital, on the fifth day of October, he could stand without support and could walk with the aid of a cane and since this time he has improved so markedly that he has been able to go hunting on four different occasions and was able to bring down the game. For the past three or four weeks he has walked to and from the Hospital, a distance of something over a mile.

On November 30 the neurological examination was as follows: The patient's pupils are equal; they react slowly to light but equally well, they react promptly in accommodation. There is no extraocular palsy. The tongue is protruded straight, without a tremor. There is no tremor of the lips, no inco-ordination or tremor of the hands. He walks without difficulty and shows but a slight ataxia in both feet. In standing with the eyes closed, he sways slightly. Station is normal with the eyes open. There is no objective disturbance of sensation of any form anywhere, the plantar reflex is normal on both sides. He says he has occasional stinging pains in the feet but to a much less degree than before the treatment.

Comment.—The case is an unusual one because of its rapid development, showing a very active process in the central nervous system with negative laboratory findings, both the blood serum and the spinal fluid giving a negative Wassermann reaction. The cases in which the Wassermann test on the spinal fluid is sometimes negative (about 3 per cent.) are cases of long standing and of very slow progress. The Wassermann test on the blood serum is more often negative in tabes (about 20 per cent.) than in any other form of syphilis of the central nervous system.

The case just described was undoubtedly in the earliest stages of development, even though the symptoms were well marked and accordingly the therapeutic result came very promptly with almost complete disappearance of the most distressing symptoms.

From my own observations and investigation of the work of others, I dare say that the method of treatment employed in the case just reported gives results equally as good, if not better than with Salvarsan in tabes or paresis.

Discussed by Doctors Inglis, Camp, Christian and Klingmann.

A CASE OF SYPHILIS IN PRIMARY STAGE WITH INVOLVEMENT OF THE CENTRAL NERVOUS SYSTEM—DR. UDO J. WILE, ANN ARBOR.

It is generally accepted by most authorities that following the appearance of the syphilitic chancre there is a period longer or shorter during which the infection remains local before

there is a hematogenous dissemination of the spirochaeta. This period is known as the stage of secondary incubation. In the case I am about to report, the onset of the involvement of the nervous system, as evidenced by the findings in the spinal fluid, occurred so short a time after the appearance of the chancre, before any other secondary manifestations were present, that one is inclined to believe that in certain cases at least this period of secondary incubation does not exist, or is not measurable.

The patient is a man of 38, married and was admitted to the University Hospital on the 22nd of October, 1914.

Complaint.—Comes to the Hospital for a sore on the penis.

Family History.—Is negative.

Past History.—Patient has been married and has a family of six children, all of whom are healthy. He has been divorced from his wife. He is a heavy drinker.

Present Trouble.—Four weeks ago the patient developed a small sore on the outside of the foreskin, two or three weeks postcoitu. This gradually increased in size but did not become hard. Another lesion however appeared inside the foreskin near the frenum. This rapidly developed an induration. The patient burned both lesions when they were fully developed. They have caused him very little pain. He has had no trouble with headaches or a general eruption.

Examination. *Dr. Stokes, Oct. 23, 1914.*—Patient is a seedy, undernourished, dissipated looking individual. Eyes: Pupils are equal and react to 1 and a. The face shows an alcoholic flush. There is no alopecia. The skin of the body is clean. The lesion of which the patient complains is on the penis, which shows complete phimosis and considerable swelling. On the outer surface of the prepuce is a small, irregular ulceration with a yellowish dirty base. The tissues surrounding this ulcer are infiltrated. The infiltration is almost boardlike near the frenum. It is impossible to avert the foreskin sufficiently to see the actual lesion.

Mucous Membranes.—There is considerable pharyngeal engorgement but no definite lesions.

Glandular System.—There is a marked bilateral, painless, inguinal adenopathy. The patient could not remain long enough for dark field examination at this time.

Dr. Stokes, Oct. 23, 1914.—There is a pipstern lymphadenitis, painless to the touch, on the dorsum of the penis.

Dr. Stokes, Oct. 24, 1914.—Aspiration of the base of the chancre on the foreskin with a hypodermic syringe yielded serum containing large numbers of spirochaeta pallida.

Neurological Examination.—The neurological examination of this case carried out in Dr. Camp's clinic showed exaggerated knee and Achilles jerks, sluggish and unequal pupils, and an unsteady station, particularly with the eyes closed. Examination of

the eighth nerve by Dr. Canfield was returned as showing involvement with decreased bone conduction. From Dr. Parker the report is neuro-retinitis with marked vascular changes of the sclerotic type in both eyes. The lumbar puncture showed a cell count of 200, Nonne Apelt positive in a dilution of one to four and albumen plus minus increased. The Wassermann on the spinal fluid was found to be negative.

This case is extremely interesting in view of the early involvement of the cerebro spinal axis both clinically and from the examinations of the spinal fluid. The negative reaction of the spinal fluid is quite in accord with my findings in secondary syphilis, where clinical manifestations may be associated with any one of the three changes of the cerebro spinal fluid. Patient is to return in a short time for re-examination. The presence of central nervous system involvement in this case before even a general adenopathy was present and before any secondary manifestations occurred, leads one to the inevitable belief that the hematogenous spread of the disease from the primary sore occurs a considerable time before local metastatic foci appear in the skin or mucous membrane.

Discussed by Doctors Camp, Christian and Wile.

A CLINICAL AND ANATOMICAL STUDY OF A CASE
OF DEMENTIA PRAECOX, ILLUSTRATED
WITH LANTERN SLIDES—DR. A.
M. BARRETT, ANN ARBOR.

The patient was a male who came of a family in which the father was eccentric and several members were peculiar but not insane and one brother had physical malformations. At the age of 5 he had poliomyelitis, which left a mild degree of paralysis in the left foot. He was of average intelligence in the schools and learned the business of a pharmacist but never was more than ordinarily successful. He had been married 18 years, but had no children. Since 36 he had been a periodic drinker. Since 41 he had taken less interest in his business. At 43 he was guilty of an indecent exposure. During the past year he had had numerous schemes for making money. He entered into financial obligations without any ability to keep them. He accused his wife of infidelity and became much interested in books dealing with "New Thought" and occult sciences. On the occasion of the death of his father he acted strange. As he left the town after the funeral he felt that incidents about the station and on the cars had some reference to himself. As he tried to walk on the street he acted peculiarly and was arrested under the suspicion that he was drunk. In the station house he became much excited, screamed and assaulted those around him. The events following this he later looked at as if they had some peculiar significance for himself and that forces outside of him were

controlling his actions and directing the experience he was going through.

A few days after this he came to the State Psychopathic Hospital. The physical examination showed a mild atrophic paralysis of the left lower leg and foot. Blood pressure was 136; irregular pupils but normal reaction. Knee and arm reflexes were present but the Achilles were not obtained. The blood showed a leucocytosis of 16,150 cells. Four Wassermann tests of the blood and one on the cerebro-spinal fluid gave negative results. The examination of the fluid gave from five to seven cells per cubic millimeter and albumen of two division of the Nissl-Esbach tubes. The Nonne-Apelt reaction was negative. During the first four days he refused to talk. His movements were for the greater part of this time stereotyped, or at times he was cataleptic. At other times he was completely resistive to all external influences, even doing the opposite of what he was required to do. On the fifth day he talked freely, showed a clear memory for all that had happened and gave a long detail account of his experiences, which were interpreted to mean that all that had happened was part of a definite scheme of events centering around his own important personality. During the next week there was much stereotypedness in his movements; occasionally he acted impulsively, being compelled by "Some Higher Power." He then entered upon a phase in which he orated much in dramatic tones, speaking of himself as, "I am the only Jesus Christ that ever lived and my father J. L., is God Almighty." The patients about him were given other identities, and the greater part of his talk concerned his transformed identity and the reworking of all his past experiences in a way to show how all had a part in the scheme culminating at this time. He stood in peculiar positions with arms outstretched like a cross. At times there were evidences of ambivalence, as, "Should he or should he not replace the rugs he had taken from the floor." After a few days of this talkative period he became mute and negativistic. For a period of one day he showed echolalia. He again became noisy and talkative. The content of his thought concerned his personality and he elaborated a wealth of expansive ideas relating to changes in his environment. He wrote numerous letters full of allusions to himself and references to scriptures and their bearing upon his wonderful experiences.

In these letters there were often interspersed abbreviations, puns and unusual expressions. It was easy at times, to induce flights of ideas by stimulus words and in a long series of association tests there were numerous reaction with words of religious significance.

About April 14 there were occasional episodes of depression in which he kept by himself and cried much. A letter written about this time he signed "George Washington L." Periods of depression were from this time on, frequent but there were also times when he was extremely boisterous in his talk

and showed many stereotyped attitudes. About April 22 there were periods when he was stuporous and indifferent to all going on near him. This might suddenly be interrupted by impulsive acts, assumption of stereotyped attitudes or an outburst of speech full of words strung together without any adequate connections.

He was physically weak. There were frequent loose bowel movements. His temperature varied between 94.6 and 96.° The leucocytes numbered 20,350. On April 26 he continued to fail. He was clear in his comprehension; at times he would converse seriously and with orderly thought but his speech showed many words striking in their contrast with the situation he was in. This strange conduct with at times outbursts of excitement continued until his death a few hours later.

In the clinical course of this case the development of the symptoms was of unusual interest. The disorder began with a catatonic excitement, with physical disturbances of cyanosis, leucocytosis, and slight rise in temperature. As the catatonic features became less marked the physical condition improved. There occurred a marked gain in weight and the sleep was more normal. From out of the catatonic state there arose a paranoid state with delusions determined by the affective influence of complexes which were derived from the memories and experiences of a peculiar personality, and the events of the death of his father. These led to a complete change of personality with expansive delusions which became loosely arranged and absurd, and finally terminated in a catatonic stupor with physical symptoms of leucocytosis, subnormal temperature, nephritis, diarrhea and lost tendon reflexes.

The pathological findings of the autopsy were a small pneumonic focus in one lung, chronic passive congestion of all organs, fatty atrophy of the heart, marked syphilitic aortitis, syphilitic orchitis with marked atrophy of the testicles. These findings did not seem adequate to account for the sudden death of the patient and were in part the result of some pathological process which also showed its effects upon the structure of the central nervous system.

The study of the brain showed no gross lesions which could account for his death. Aside from arteriosclerotic thickenings of some of the larger vessels there were no certain abnormalities.

Microscopic examination showed widespread and severe fatty pigmentation of the nerve cells and marked accumulations of fat in the neuroglia and in the blood vessel walls. There were no ameboid changes in the neuroglia. The process within the cortex was unquestionably a severe structural change and one which has occasionally been described in deaths from acute dementia praecox. It would seem that the excessive amounts of fat within the nerve cells must have seriously interfered with the healthy functioning of the cells, and that the changes in the brain might be looked upon not as specific for dementia praecox but as part of a general patho-

logical process showing itself in certain changes in the body organs, such as the fatty degeneration of most and the chronic nephritic changes. This process had allowed the schizophrenic process to develop from tendencies which were latent before the development of the acute symptoms.

The reader reviewed some of the recent contributions dealing with the organic features of dementia praecox and called attention to the physical abnormalities which were present in this case as indicating an organic process associated with the mental symptoms of dementia praecox. These symptoms were, the acute onset with rise in temperature, vasomotor changes, and the leucocytosis which was present during the more restless phase of the course; then,

with the development of the delusions the acute symptoms passed away and a marked gain in weight occurred. The condition terminated in the acute phase with leucocytosis, nephritis and lost tendon reflexes of the legs.

Discussed by Doctors Hitchcock, Amberg, Christian, Klingmann and Barrett.

Secretary announced that Dr. Warnshuis, Editor of the *Journal of the Michigan State Medical Society* would publish the Transactions of Detroit Society of Neurology and Psychiatry.

The Society then adjourned.

GUY L. CONNOR, Secretary.

Maignen Antiseptic Powder.—This powder, exploited by the Maignen Institute, Philadelphia, is stated to be composed of calcium hydroxid, sodium carbonate, aluminum sulphate and boric acid and its action depends on the sodium hydroxid which forms when the powder is treated with water. It is advertised both to physicians and the public by means of claims which are extravagant, preposterous and dangerous. Thus a pamphlet gives directions for the sterilization of the nose, throat, stomach, lungs, eyes, gums, mouth and the genito-urinary tract. Its use is claimed to prevent blood poisoning, lockjaw, hydrophobia and infectious diseases and mothers are invited to treat their babes' ailments with it (*Jour. A.M.A.*, Nov. 14, 1914, p. 1778).

Iron Solution for Intravenous Therapy.—This solution, manufactured by Perkins and Ross, Colorado Springs, Colo., contains soluble iron phosphate as its essential constituent and is recommended as a "chalybeate, emmenagogue and tonic." As the intravenous administration of a drug like iron, which must be continued for long periods, cannot be considered the method of choice, as the composition of the solution is such that changes may occur on standing, etc., which would make the preparation dangerous, and as the method of marketing the solution does not insure its sterility, further increasing the danger of its use, the product was refused recognition by the Council on Pharmacy and Chemistry (*Jour. A.M.A.*, Nov. 14, 1914, p. 1778).

Phecolates, Phecolax, Phcozymes and Phcotones. These are tablets put out by F. Waldo Whitney designed to form part of a system of treatment founded on the theory of autotoxemia. The different mixtures consist of the main of well-known remedies, one of them containing ten constituents. Most extravagant claims are made for these mixtures. The Council on Pharmacy and Chemistry voted to refuse them recognition as unscientific shotgun mixtures and because the names do not indicate their potent constituents (*Jour. A.M.A.*, Nov. 21, 1914, p. 1870).

Radium Emanation Activators.—Outfits for charging drinking water with radium emanation are now widely and extravagantly exploited. For an apparatus which imparts 2500 Mache units to water

each day as much as \$200 is asked. Theoretically, 72 cents worth of radium can produce 2500 Mache units of emanation per day. Even if, because of mechanical difficulties twenty times as much radium were required to be present in the activator, the cost of the radium in this \$200 apparatus would be only \$14.40 (*Jour. A.M.A.*, Nov. 14, 1914, p. 1780).

Sherman's Non-Virulent Tubercle Vaccine.—This product of G. H. Sherman, Detroit was refused recognition by the Council on Pharmacy and Chemistry because the far-reaching claims made for it were not substantiated by suitable evidence (*Jour. A.M.A.*, Nov. 21, 1914, p. 1870).

White Sulphur Salts.—This is an effervescing salt put on the market by the White Sulphur Springs, Inc. It was refused recognition by the Council on Pharmacy and Chemistry because it did not represent the water of White Sulphur Springs, Va., as claimed (*Jour. A.M.A.*, Nov. 21, 1914, p. 1870).

Unguentum Selenio Vanadic, v. Roemer.—This ointment, marketed by Schering and Glatz, New York, is claimed to contain selenium oxycyanid and vanadium chlorid. No evidence of the value of the preparation either in carcinoma or in any of the very long list of other diseases in which it is recommended was submitted. The pharmacologic evidence that such a preparation would be of value in such conditions being practically nil, the Council on Pharmacy and Chemistry refused recognition to the product (*Jour. A.M.A.*, Nov. 21, 1914, p. 1870).

Iodia.—Iodia (Battle & Co.) is claimed to contain potassium iodid in combination with iron phosphate and vegetable "principles." It is extravagantly recommended for use in many and varied conditions. It is asserted to be "almost a specific" in eczema and rheumatism and "a highly efficient form of iodine." The A.M.A. Chemical Laboratory having shown that untrue statements in regard to the composition and preparation are being made, the Council on Pharmacy and Chemistry refused recognition to Iodia on this account; because unwarranted therapeutic claims were made and because the use of this complex mixture is unscientific and a detriment to the profession and the public (*Jour. A.M.A.*, Nov. 21, 1914, p. 1871).

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W. J. Kay Lapeer.
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JANUARY

Editorials

COUNCIL MEETING.

The semi-annual meeting of the Council of the Michigan State Medical Society will be held on Wednesday, January 20, 1915 at 10 a. m. at Ann Arbor for the transaction of the regular order of business and such other business as may properly come before this executive organization in the interest of the Michigan State Medical Society.

(Signed)

W. T. DODGE, Chairman.

F. C. WARNSHUIS, Secretary.

ANNUAL DUES.

The annual dues are now payable. Please make it a point to send them to your county secretary at once. It is just as easy to pay them now as two or three months hence. Your prompt compliance with this request will obviate considerable work for your local secretary. Please do not necessitate his personal solicitation, he has trouble and work enough as it is. Just give this a moment of your time and mail him your check today.

TREATMENT OF DISEASES OF THE EYE.

With conservation of vision becoming a general topic for study and discussion, it behooves

us to be more thorough in our diagnosis of diseases and injuries to the eyes. Every case that comes to our office should have our careful attention, and should be given all the time necessary for a thorough examination. The time for guess work has passed. With our modern equipment and laboratories, we have great advantage over the oculists of a few years ago. They did good work then, but we should not be satisfied with doing as well.

While our legislature has passed a law making it is a misdemeanor for an obstetrician or a midwife to neglect placing a few drops of 2 per cent. solution of silver nitrate in the eyes of every new-born child, we still see cases of ophthalmia neonatorum. Smears and cultures should be made from every case of purulent ophthalmia and the case treated as a gonorrheal infection until such time as a differential diagnosis can be made with the aid of the microscope.

In our manufacturing cities, we see many cases of injury to the eye-ball from flying pieces of metal. A slight cut of the cornea may be the only visible lesion, yet a piece of steel may have penetrated the globe. A slight cut in the iris, found after injury to the eye, is one of the main points of diagnosis. Here the ophthalmoscope, transilluminator, and Roentgen rays are indispensable in locating, and the giant magnet our greatest aid in removing the foreign body, providing it should be iron or steel.

A seemingly slight contusion of the eye-ball may later be complicated by iridocyclitis, traumatic cataract, or detachment of the retina. What may appear at first as a mild attack of conjunctivitis, may prove to be the beginning of a corneal ulcer. The corneal loupe and testing for corneal stains with fluorescein, are our sheet anchors here. The use of the tonometer, rather than depending on the finger-tips for taking the tension of the globe, in cases of suspected glaucoma, is a very important advancement. The improved perimeter for registering the visual field, and recently devised instruments for measuring muscular insufficiencies, make this part of our work much more accurate and scientific. The Wassermann test for syphilis and the gonorrheal fixation test in cases of iritis are material aids.

The detection and correction of errors of refraction has become a very important branch of our work. We do not have to depend entirely on test lenses and the patient's judgment, but with the retinoscope, the ophthalmometer, the ophthalmoscope, and the numerous other in-

struments at hand, our findings should be accurate and convincing.

Early refraction, in cases of strabismus of childhood, and the use of the amblyscope to assist in developing binocular vision should be encouraged.

To be scientific, we must be studious and energetic. Our grateful patients and the self satisfaction of having done our best, should amply repay us.

C. B. BIRD.

OTOLOGY.

At the annual meeting of the Medical Society of the state of New York, (*New York State Journal of Medicine* of November, 1914), Dr. Thomas J. Harris gave an excellent resume of the recent developments in otology, a perusal of which is highly recommended. Dr. Harris speaks especially of the modern conception of the importance of the streptococcus mucosus, the indication for operation in labyrinthine disease, brain abscess, and diagnosis and treatment of otitic meningitis, subjects which are foremost in the minds of the otologists for several years and which find further elucidation by writers. A few additional remarks may be useful:

First: A very important contribution to otology has been made by Prof. Walb of Bonn in his monograph "Concerning the Fractures of the Margo Tympanicus, a Contribution to the Knowledge of Results of Accidents." Walb, after many years of observation, claims that the diagnosis of fracture of the skull has almost always been made on account of two symptoms: (1) loss of consciousness; (2) hemorrhage from the ear. On the other hand, when hemorrhage from the ear was missing, a diagnosis of fracture of the skull was not made, but usually the diagnosis concussion of the brain was made. For most physicians, hemorrhage from the ear is the salient point. But already v. Bergmann says that even a violent hemorrhage from the ear alone after an injury to the head does not allow us to make the diagnosis of fracture of the base of the skull. Walb also claims that a hemorrhage can take place in the labyrinth if the fracture reaches only to the neighborhood. A hemorrhage in the labyrinth can also take place when there is no fracture at all. Walb does not consider the loss of consciousness a characteristic symptom. The base of the brain has nothing to do with consciousness. Loss of consciousness is the

result of a general concussion of the brain. Walb's observation led him to the conclusion that a hemorrhage more severe than that which results from a rupture of the drum membrane can take place without a fracture of the base. After reciting in full twenty-three cases, Walb comes to the following conclusions:

1. In injuries to the head by fall, stroke or blow, frequently a more severe hemorrhage from the ear is noticed. The most frequent sources are isolated fractures of the margo tympanicus which are usually associated with a rupture of the drum membrane.

2. The diagnosis of a fracture of the base of the skull can be diagnosed only by symptoms caused by defects, respectively, irritations which are caused by the fracture and its accompanying symptoms.

3. Peripheral fractures of the petrous bone are very frequently associated with injuries of the labyrinth. The latter are the cause and explanation of the complaints which continue for a long time after the injury, especially hardness of hearing, headache and dizziness.

The fractures of the margo tympanicus, with or without rupture of the drum membrane, heal mostly completely. They cause little or no annoyance after healing, especially the hearing is often little or not at all disturbed in cases in which the labyrinth remained healthy. Yet, there may be in the beginning, subjective noises in the ear caused by reflex irritation of the nerve ends healed in the scar of the drum membrane.

5. In the great majority of cases, the traumatic injuries of the drum membrane heal without leaving a perforation, even if the injury was accompanied by a middle ear suppuration. If we find a larger round perforation with persisting suppuration especially in both ears, the suspicion is justified that the trouble cannot be referred to the accident but existed previous to the same.

6. Rupture of the drum membrane without connection with margo fractures are very rarely caused by indirect injury; they are more frequently caused in cases in which the drum membrane was thinned and flabby.

Second: Prof. Denker, of Halle, has added to our knowledge of otitic and traumatic meningitis (*Zeitschrift für Ohrenheilkunde*, etc., March, 1914). Denker refers to the discussion of Preysing's paper on "The Surgical Therapy of Otitic Meningitis," in which two questions were prominent, one concerning the diagnosis based on subjective and objective symptoms,

the other concerning the success of treatment.

In regard to the first question, we must decide whether in the presence of outspoken meningeal symptoms, the diagnosis of a diffuse purulent meningitis can be made if the spinal fluid shows only higher pressure, marked increase of leucocytes, but is sterile, or, whether we must demand for a diagnosis, presence of pathogenic micro-organisms in the cerebro-spinal fluid.

Second, can we favorably influence the course of a diffuse purulent meningitis by medical or surgical treatment, and which remedies are the most favorable to cause a cure?

Denker comes to the conclusion that in the treatment of otitic meningitis the main stress must be laid on the evacuation of the primary focus in the middle ear and labyrinth, and on the lumbar puncture, which, under circumstances, must be repeated several times. If it is possible to, early, demonstrate a certain micro-organism in the lumbar fluid (streptococcus, pneumococcus, meningococcus), the respective serum must be injected in the spine (polyvalent anti-streptococcic serum, pneumococcic serum, meningococcic serum).

Denker did not see, in two trials, a favorable influence of intraspinal injections of urotropin, but he could see a favorable influence by giving urotropin by mouth. Therefore, he not only gives urotropin in meningitis but, prophylactically, 0.3 three times a day in all cases in which a postoperative meningitis is to be taken into account, i. e., in suppurative labyrinthitis, in radical operations on the frontal sinus, ethmoid, sphenoid and in resections of the septum which must be made near to the cribriform plate. Denker is of the opinion that otitic diffuse leptomeningitis can be cured even if there are pathogenic micro-organisms (streptococci, staphylococci, diplococci) in the spinal fluid.

He says that we must not doubt the diagnosis of a diffuse purulent meningitis because the patient was cured. Not only his own work but also the publications of Schmiegelow, Alexander, Mygind, Voss and others report cured cases. In these cases the cloudy spinal fluid contained, besides numerous leucocytes, also pathogenic micro-organisms (streptostaphylo-diplococci). This proves that an otogenous diffuse leptomeningitis can be cured. His clinical experiences tell him that the prognosis is better in meningitis following a chronic than in that following an acute ear suppuration. Denker, however, does not claim that

all cases of otitic meningitis can be cured. Numerous observations have shown that we are powerless in the majority of cases if the subarachnoidal space is inundated by numerous strongly virulent microbes and the disease shows from the beginning fulminating clinical symptoms. Then all therapeutic measures are useless. In otitic meningitis the former pessimism is not justified; still less, however, a too optimistic conception.

Third: A very important point in treating an acute middle ear suppuration, such as every physician frequently sees, is made by Heine (*Operations on the Ear*, 1913), namely, absolute rest and an early paracentesis. He was himself more conservative in the beginning of his practice as an aurist, but experience has taught him, like others, that inflammations of the middle ear heal quicker and lead more rarely to complications if the drum membrane is incised as soon as it is necessary. He does not consider it as a cure-all, because also other circumstances come into consideration, namely, the kind of infection, structure of the mastoid process, etc., and not less the conduct of the patient himself. Heine considers any somewhat severe middle ear suppuration a serious disease, therefore, the patient has to stay in bed even if there is no pain, no fever, and if he feels well. Patients should remain in bed six to ten days, until it is plain that the inflammation is receding. Heine considers this absolute rest and an early paracentesis the most potent agency in the whole treatment of acute middle ear suppuration. Patients with acute otitis media should not be treated in the dispensary. The chances for the patient are not so good. Heine finds the proof by comparing the results in private practice and in the polyclinic. He cannot remember a case in which he had to open the mastoid in private practice, provided an early paracentesis had been made and the patient was kept in bed, although he admits that it may become necessary once in a while.

Fourth: Alfred Zimmerman in Halle, *Zeitschrift fuer Ohrenheilkunde* etc., July, 1914 studied "The application of the dialysis method of Abderhalden as to the clinical aspect of otogenous intracranial complications, at the same time a contribution to the organ specificity of the protective enzymes (Abderhalden) on the basis of animal experiments and clinical studies." Zimmermann reaches the following conclusions:

1. Following experimental injuries of the

brain or peripheral nerves there constantly appear within as short a time as four days protective enzymes in the plasma of the experimental animals, specific for nerve tissue.

2. The changes in the brain necessary to release such an effect can fluctuate in kind, intensity or volume within very wide limits. Therefore the Abderhalden reaction is a very sensitive reagent concerning the most varied lesions of the nervous system.

3. Such ferments can regularly be established in the serum of patients in whom the brain affection can be demonstrated.

4. These ferments are of a strictly organ specific character.

5. By the dialysis method, and under the conditions of the experiment, a difference in the reaction cannot be demonstrated in the affection of single anatomically and functionally different portions of the nervous system if correspondingly different substrata are used. Therefore it is at present impossible to make a localizing diagnosis within the nervous system.

6. The ferments found in the plasma which are specifically active on nerve tissue do not show a species specificity (Artspezifität). The homologous organs of the various species are also decomposed. Principally, therefore, a substitution of human organs by organs of animals is possible, but for practical reasons this is not recommended.

7. Cases of the extradural abscesses and of meningitis can also give a positive serum-reaction. One must assume for such cases with positive reaction that we have before us complicating encephalic or meningo-encephalic processes.

8. Cases of uncomplicated otitis confined to the middle ear or cases of mastoiditis which have not reached the dura show a negative reaction.

9. A decomposition of brain substance follows also a general narcosis by inhalation. Therefore the blood specimens must always be taken before such a narcosis. Positive results after a narcosis cannot be used for diagnosis.

10. A positive reaction can be expected with certainty in all cases in which an abscess of the brain is present, but—

11. It is not necessary that an abscess of the brain is present when the Abderhalden reaction is positive.

12. A positive reaction can indicate a simple encephalitis because the reaction does not give the nature of the underlying process. De-

composition of brain has been shown also in other diseases e.g. in paralysis, epilepsy and all forms of dementia.

13. A simple extradural abscess, a sinus thrombosis, a circumscribed or diffuse meningitis can give a positive reaction.

14. The positive result alone does not furnish a direct indication for surgical interference on the brain.

15. Diagnostic points may eventually be given in some cases by the positive reaction in very close connection with the clinical picture and the findings in the spinal fluid.

16. The negative reaction is of great importance. A brain abscess can be excluded with absolute certainty. This pertains also to encapsulated abscesses.

17. The negative reaction also probably allows us to exclude the presence of meningitis because it may be assumed that in each meningitis we find simultaneously encephalitic processes. The diagnostic value of a normal spinal fluid is perhaps materially increased by a negative serum-reaction because the lumbar punctures may not give a clue for the diagnosis of a circumscribed meningitis or meningo-encephalitis.

18. The negative reaction may perhaps be of great help to us in cases in which we have, besides an otitis, symptoms on the part of the brain which may be deceiving while caused by diseases of other organs. This applies especially to hysterical people with brain symptoms.

Zimmermann adds that much work is yet to be done in this new field of investigation and that he only wanted to point the way.

EMIL AMBERG.

CEREBRO-SPINAL SYPHILIS AND ITS TREATMENT.

A CONSERVATIVE TREATMENT.

That, under the more modern conception and later treatment, cases of both tabes and general paresis have shown remarkable improvement there is no gainsaying, and this has been true with the intravenous administration of salvarsan or neo-salvarsan alone, although better results have followed the combined use of mercury and potassium iodide between treatments.

Sub-arachnoid injections of serum which has been salvarsanized *in vivo* and that which has been salvarsanized *in vitro*, and contains a known amount of salvarsan or neo-salvarsan, have also yielded results sufficiently favorable to encourage their further use. Yet the curability of

either paresis or tabes has by no means been demonstrated, and we must be on our guard against an overhasty enthusiasm which may lead us to disregard the verdict of French workers who have gone still further and done not a little work not only in the intra-spinous subarachnoid injections but in the cerebral subarachnoid treatment as well and who say, in spite of improvement in some cases, that the results are by no means brilliant nor the outlook tremendously alluring.

Especially if one is in daily contact with florid syphilis and the remarkable results so often there seen from newer therapeutics, is it easy to be led into a too sanguine enthusiasm which readily promises over-much for the intra-spinous treatment of tabes and paresis. We need as yet to feel our way very carefully in this newer ground and are not as yet warranted in promising great things from late procedures and this especially in view of the damage which has too often been already done when these cases first come to treatment. Their use, however is amply warranted by the improvement already secured in repeated cases.

CHAS. W. HITCHCOCK.

THE COUNTY SOCIETY.

"Every county society seems to have a common life history—an enthusiastic birth, a more or less stunted growth and then renewed vitality and great development. Numbers alone do not count for anything, for some national societies of high efficiency can at some meetings muster only ten or a dozen members. What is needed most of all is an "*esprit de corps*" permeating the whole organization; an enthusiasm which grips every member and compels him to perform gladly any duty which the society may request of him; a receptive state of mind that he may note what the various speakers affirm and decide by his own investigations of the subject whether they have read their theme aright, and the criticism which may follow, even if severe, need not be given in a malignant spirit.

"Again, every society desires as members every eligible man in the county and we hope to have that duty done before the state solicitor comes around. The conditions as printed on the application blanks are liberal enough for all consciences. It is a mistake for any man to think that he can stand alone in the exigencies of practice. The field is too broad, the knowledge is too cheap, and the ability of most minds to

retain and apply all they seek to know too limited, and at the bedside one finds that the symptoms are baffling and the judgment fallacious.

"No, no man knows it all and each one needs the moral support of the county society, and the society needs him. One says to me: 'I don't go to the meetings because I can read all they have to say in the books.' It is very true that you busy men are not engaged in research work and still there is not one of you who is not intensely interested in all the research work as reported in your medical magazines and books. You pride yourselves upon being up to date. Why, gentlemen, there is enough 'medical news' in sight at the present moment to keep us all talking medicine for the next twenty-five years. Get on your feet once in a while and tell us what you know, what you expect and what you hope about these things and the society will flourish like a green bay-tree."

The above is the gist of President Larson's Inaugural address before the Marquette-Alger County Society. The sentiment and thought expressed is of more than passing interest.

The need or not, of organized medical effort is no longer debatable. It is universally conceded that medical organization has been the essential factor in securing efficiency, progressiveness and prosperity for the individual doctor and through him has brought to the community in which he resides movements that have bettered the physical and sanitary conditions of the inhabitants of that community.

The plan whereby the county society was made the unit of organized medicine is also recognized as being both wise and just.

Those of us who were not privileged to assist in the pioneer days of this organization work owe a debt of gratitude for all that has been secured and provided for us and granting us this goodly heritage. To express our appreciation it devolves upon us to not only diligently maintain all that has been wrought but to do our part in furthering that which still demands our united efforts and time and so maintain the efficiency of each unit of the organization.

Narcophin.—Narcophin consists of morphin meconate and narcotin meconate in molecular proportions. It is claimed to be a scientific substitute for opium and to have advantages over morphin. The Council on Pharmacy and Chemistry was unable to accept the therapeutic claims made for it (*Jour. A.M.A.*, Nov. 21, p. 1872).

County Society News

CALHOUN COUNTY

Some Aspects of Congenital Syphilis Affecting the Central Nervous System.

Dr. Carl G. Camp, Ann Arbor.

Metastatic Deposits in the Central Nervous System.

Dr. D'Orsay Hecht, Chicago.

For the last two or three years, the entertainment committees who have had charge of providing the entertainment for the annual meetings, have been disappointed in the attendance at these functions. With this in mind, the committee this year has introduced two changes which it is hoped will prove satisfactory. The hour of the banquet has been fixed at six o'clock as this was thought to be more favorable, and it was decided to ask all to attend as guests of the society this year. It is to be hoped that all who can possibly arrange to be present will show their appreciation by their presence.

We would particularly call your attention to the courtesy extended our Society by our worthy Mayor, Hon. John W. Bailey, in that we are privileged to hold this annual meeting in the commission room of the new City Hall. We feel sure the membership will be pleased to know that we also have permission to use this same room on the first Tuesday evening of each month for our regular monthly meetings.

SECRETARY'S REPORT.

To the officers and members of the Calhoun County Medical Society. The following report for the year ending Dec. 1, 1914, is hereby respectfully submitted by your Secretary.

The year just closing has been the most auspicious in the history of the Society in several ways. A greater number of meetings have been held, the attendance has been markedly increased and a larger number of distinguished essayists have appeared before us than ever previously in our history, while the membership has increased until we now number more members than ever before, so far as I am able to ascertain.

The meetings held during this year, including the annual meeting, have been ten in number. Three of these were under the old plan of Special Scientific Meetings. Two were quarterly meetings, while four regularly monthly meetings have been held, and one special meeting. The attendance at these meetings has averaged about sixty, while the greatest attendance at any one time was reached on the 6th of October when 150 members, friends and guests assembled to hear Dr. George W. Crile of Cleveland.

The plan of holding evening meetings has been continued throughout this year, and we believe has been of marked value to the Society. At every meeting of the Society, with a single exception, we have had some distinguished essayist address us. These have included such men as Dr. Milton M. Portis of Chicago, Dr. Eusterman of the Mayo Clinic, Dr. Harry M. Richter of Chicago, Dr. Peterson, President-elect of the State Medical Society, of Ann Arbor, Dr. Robert B. Preble of Chicago, Dr. George W. Crile of Cleveland and Dr. Harvey R. Gaylord of Buffalo, N. Y., together with Dr. D'Orsay Hecht of Chicago and Dr. Carl D. Camp of Ann

Arbor, who are to be our distinguished guests for this meeting.

It must be admitted this is an unusual array of outside talent to have presented before a County Society during a single year, and the Program Committee is to be congratulated upon their success along this line.

Death has entered our ranks but once during the year when Dr. Ira Young Kezartee, an honorary member, died at his home in this city on May 4.

The Society, through its councilor and membership, was more or less instrumental in assisting the Medico-Legal Committee of the State Society to secure the conviction of Dr. Thomas H. Oliver, accused of illegal practice, in prescribing and furnishing heroin for other than legitimate and medicinal purposes. Dr. Oliver was sentenced to imprisonment in the county jail ninety days and to pay a fine of \$500. The sentence was served, but the fine was never paid. Dr. Oliver was summoned to appear before the State Board of Registration in Medicine, and to show cause why his certificate of registration should not be revoked. He failed to appear and his certificate of registration was evoked. He has since left the borders of the state of Michigan.

During the year our by-laws were amended whereby instead of holding our meetings quarterly we now hold monthly meetings except during the months of July and August, during which time meetings will be suspended.

We are pleased to report that our membership for this year has increased from sixty-nine at the close of 1913, to eighty at the end of 1914, with several applications now pending. This you will observe entitled our Society to an additional representative in the House of Delegates of the State Society, and it will be our duty at this annual meeting to elect two delegates and two alternates.

Our Society established a record for the payment of dues this year, there being in the entire list of the membership but a single case of delinquency. This is a record which was equalled by no Society numbering as many members as does ours.

During the year the plan of publishing a Bulletin of the meetings was tried experimentally and finally adopted by the Society, and we are pleased to publish our annual report in the Bulletin at this time, that the same may be inspected by the members, previous to the meeting, and much valuable time be saved. Thus far the Bulletin has proved to be self supporting.

TREASURER'S REPORT FOR YEAR ENDING DECEMBER 1, 1914.

Balance on hand Dec. 1, 1913	.....	\$146.47	
Received from members	.....	338.00	
Received from all other sources	....	45.15	\$579.62
Disbursements.			
Michigan State Medical Society	....	\$232.00	
1912 Banquet. (Old bill)	.....	15.00	
1913 Banquet	.....	127.47	
Essayists Expenses	.....	18.12	
Flowers	.....	22.00	
Postage and Printing	.....	34.56	
A. M. A. Directory	.....	7.00	\$456.15
Balance on hand Dec. 1, 1914....			\$123.47
A. F. KINGSLEY, Secretary-Treas.			

HOUGHTON COUNTY

The regular meeting of the Houghton County Medical Society was held at the Scott Hotel, Hancock on Dec. 7, 1914. There were twenty-two members present. The first paper on the program, Ununited Fractures, by Dr. D. D. Todd, Calumet, consisted of a report of nineteen cases of fracture of the shaft of the tibia.

Bone, inlay and intramedullary splints were used in the operative cases with uniform success.

The second number on the program was an exhaustive study of Trachoma, by Dr. A. B. Wesels of Houghton. The subject was exceptionally well handled.

It was voted to hold a banquet after the annual meeting in January.

I. D. STERN, Secretary.

INGHAM COUNTY

The Annual Meeting of the Ingham County Medical Society was held November 12, 1914 at the Hotel Downey, Lansing Mich.

Program.

Paper, "Organization."

Dr. C. B. Fulkerson, Kalamazoo.

President's Address.

Dr. Samuel Osborn, Lansing.

The following officers were elected for the year 1914-15:

President—B. M. Davey.

Vice-President—G. F. Bauch.

Secretary and Treasurer—L. C. Towne.

Member of Medico-Legal Committee—M. L. Holm.

Delegate to State Society Meeting—J. G. Rulison.

Alternate Delegate to State Society Meeting—F. M. Huntley.

Following the business meeting, the members of the society and ladies were tendered a splendid banquet by Dr. Samuel Osborn, retiring President.

L. C. TOWNE, Secretary.

1. Paper, Chronic Constipation.

Dr. F. H. Enders, Jackson, Mich.

Discussion by Drs. O. H. Freeland, W. G. Wight, Anna Ballard, S. Osborn.

2. Paper, Education and Care of Tuberculosis Patients.

Miss Mary C. Nelson, China.

Discussion by Dr. Jno. L. Burkhart, and members of the Ingham County Medical and Nurses Associations.

RESOLVED, That the Ingham County Medical Society accept the invitation of the Ingham County Nurses Association to furnish medical attendance for a free clinic or dispensary and that the members be asked to volunteer for service to a committee composed of the city physicians and members of the Ingham County Nurses Association.

SOCIAL SURVEY.

The Ingham County Medical Society has had during the past year active representation on the Social Survey Committee. The work of the Social Survey Committee has been of particular interest

to the physicians of this city because it has consisted of a survey of the city from a sanitary point of view and involving thorough going reports on the water supply, garbage disposal, form of health administration and housing conditions. The sewage report is not in yet but will be soon.

As a result of these investigations two matters have been submitted to the voters of Lansing that have received the indorsement of the city officers, the Chambers of Commerce and the most public spirited citizens, namely: the amendment to the city charter providing for a non-partisan Health Commission constituted as are the present police and fire commissions in place of the present Board of Health; second and the proposition for a municipal collection and disposal of garbage; a third important step is the decision to co-operate with other cities in securing the passage of a model housing law to prevent the evil of dark and unventilated tenement rooms and other unsanitary conditions.

None of these matters have as yet been carried through but the Social Survey Committee has hopes that as in the milk campaign success will ultimately come for these three important advances in city sanitation.

1. Paper, Surgical Diseases of the Upper Abdomen.
Dr. L. W. Toles.

Discussion by Drs. G. F. Bauch and W. E. McNarma.

2. Paper, A Free Clinic Proposition?

Dr. Clara M. Davis.

Discussion by Dr. H. S. Bartholomew.

Under arrangement for the succeeding months papers.—Dr. Joseph Colt Bloodgood, Baltimore, Md., Drs. Walker Parker, P. M. Hickey, Wesley Taylor, Angus McLean, Detroit; Drs. C. G. Darling, T. Klingmann, Mark Marshall, V. C. Vaughn, Sr., Ann Arbor, Dr. R. C. Stone, Battle Creek.

1915 RESOLUTIONS.

1. To defend the fraternity.
2. To prescribe no patent medicines.
3. To charge fees just to self and patron.
4. To regard my neighbor kindly, not jealously.
5. To work for the Ingham County Medical Society
6. To devote one hour daily to reading Medicine.
7. To attend every meeting of the Society.
8. To take part in the discussions.
9. To prepare a paper or address when requested.
10. To get a new member.

IONIA COUNTY

The annual meeting of the Ionia County Medical Society was held in Ionia, Nov. 19, 1914, when the following officers were elected for the coming year:

President—Dr. F. A. Hargrave, Palo.

Vice-Presidents—Dr. F. W. Braley, Saranac; Dr. H. M. Maynard, Ionia and Dr. F. L. Morse, Lake Odessa.

Secretary-Treasurer—Dr. R. R. Whitten, Ionia.

Delegate to State Society—Dr. Whitten.

Alternate—Dr. Maynard.

Medico-Legal—Dr. H. B. Knapp, Ionia.

At this meeting Dr. H. M. Maynard read a paper on "Medical Treatment of Hyperthyroidism." Dr. M. A. Mortensen of Battle Creek presented the

subject of "Cardiac Irregularity," in the light of the latest scientific research.

The next meeting will be held on the second Thursday in January, and will be in charge of the newly elected officers.

JOHN J. McCANN, Secretary.

LENAWEE COUNTY

At the September meeting of the Lenawee County Medical Society a very well prepared paper on "Ulcer of the Stomach" was read by Dr. O. Whitney of Jasper. This was followed by a general discussion.

At the November meeting Dr. L. J. Hirschman of Detroit gave us a very good address on "Fistula-in-ano," illustrated by numerous lantern slides. The address was not only interesting but also very instructive as the doctor brought many new ideas in the diagnosis and treatment of this class of disease which have been brought about by the great advance in this, as well as in all departments of medicine.

F. A. HOWLAND, Secretary.

The December meeting of the Lenawee County Medical Society was the annual meeting and the following officers were elected.

President—Geo. M. Lochner, Adrian.

Vice-President—F. A. Howland, Adrian.

Secretary-Treasurer—W. S. McKenzie, Adrian.

Member Medical Defense—L. C. North, Tecumseh.
Delegate to State Medical Society—I. L. Spalding, Hudson.

Alternate to State Medical Society—W. E. Jewett, Jr., Adrian.

Dr. Wm. Jewett, Jr., read an excellent paper on Hook Worm, illustrated by some fine microscopic specimens. Dr. Jewett gathered all the data for his paper from a case he is treating right here in Adrian, Michigan, proving that without a doubt many of the cases that have been diagnosed as Pernicious Anemia may have been Hook Worm instead. The doctor's paper was very interesting and very thoroughly discussed.

F. A. HOWLAND, Secretary.

MARQUETTE-ALGER COUNTY

The Marquette-Alger County Medical Society met in the City Hall, Marquette, Nov. 27, 1914.

The meeting was addressed by the Mayor of Marquette in furtherance of a plan he has evolved of getting from the State Government a branch of the State Laboratory established at some point in the Upper Peninsula. After a general discussion a resolution was adopted requesting the secretaries of all the medical societies in the district to bring the subject before their membership that the plan of Mayor Begole may have their united support and proper presentation to our legislators.

A resolution was also adopted requesting a voluntary subscription of one dollar and fifty cents per member, which would amount to sixty-one dollars, one half of which should be donated to the relief

fund for the Belgium physicians and one-half for the Red Cross of Vienna in the form of one hundred pounds of absorbent cotton. Both donations were on their way the next day.

President C. J. Larson read a paper on "Shock" which was discussed at length.

F. A. FELCH, Secretary.

ST. CLAIR COUNTY

On the evening of November 5th the St. Clair County Medical Society met at the Elks Temple for its regular monthly meeting. We had as a guest Dr. C. W. Barrett, a well-known Chicago gynecologist.

After a fried chicken supper, at which there was the largest attendance in the history of the Society, the members adjourned to the parlors for a social meeting. Later the meeting was addressed by Dr. Barrett, who took for his subject "Uterine Prolapse and Its Treatment." The lecture was illustrated with lantern slides and proved very interesting and instructive.

R. K. WHEELER, Secretary.

The annual meeting of the St. Clair County Medical Society was held Thursday evening, Dec. 10, 1914.

After a social half hour the meeting was called to order.

Dr. D. J. McColl of Port Huron read a very interesting and instructive paper on "Habitual Constipation." The discussion was opened by Dr. S. K. Smith.

The following officers were elected for the coming year:

President—Dr. J. A. Attridge, Port Huron.

Vice-Pres.—Dr. J. L. Chester, Emmett.

Sec'y-Treas.—Dr. R. K. Wheeler, Port Huron.

Delegate—Dr. A. J. MacKenzie, Port Huron.

Alternate—Dr. W. H. Morris, Port Huron.

Board of Directors—Dr. Stockwell for three years, Dr. Treadgold for two years, Dr. Fraser for one year.

A Dutch lunch was served after the meeting and everyone seemed to enjoy himself.

R. K. WHEELER, Secretary.

WAYNE COUNTY

PROGRAM.

Monday, Nov. 16—General Meeting.

Our Present Knowledge of Cancer Immunity.

Dr. Harvey R. Gaylord,

Director State Institute for the Study of Malignant Disease, Buffalo, New York.

Discussion opened by Drs. Angus McLean, Walter J. Vaughan, Ernest K. Cullen.

The Tuberculosis Problem.

Dr. Earl S. Bullock, Silver City, N. M.

Discussion opened by Drs. B. R. Shurly, V. C. Vaughan, Jr.

Monday, Nov. 23—Surgical Section.

Results of Bone Transplantation, with illustrations.

Dr. F. C. Kidner.

Discussion opened by Drs. P. M. Hickey, W. E. Blodgett, A. D. LaFerte.

A number of X-Ray plates were shown, illustrating the different phases of bone transplants. They showed distinctly certain of the causes which are apt to cause failure in this operation, such as necrosis of the transplant, fracture and absorption.

From the plates and from experience with the cases themselves, the conclusions were drawn:

1. The difficulties of technic in transplantation of bone are marked, especially when the bone is to be placed in the spine.

2. There is a great tendency to a low grade infection appearing a considerable period after the operation.

3. This tendency to infection leads to localized destruction of the transplant with exfoliation of parts on the transplant.

4. This exfoliation really goes on to the complete loss of the transplant, that is, the vitality of the transplanted bone is so great that most of it will persist and perform its function.

5. That bone transplantation for tuberculosis of the spine is not in itself sufficient to cure the disease; other supporting measures must be used. It undoubtedly hastens cure.

6. Transplants can be placed direct in tuberculous tissue and survive. This opens up a large field of usefulness in the fixation, temporary or permanent, or tubercular joints, such as the wrist or knee.

Tuesday Evening, Nov. 24, 8 P. M.

Social Surprise Smoker.

Something different. Watch our arrangement.

Any person caught talking professional business fined \$27,000,000.

Monday, Nov. 30—General Meeting.

Communication From the Bureau of Wet-Nurses.

Dr. Herbert M. Rich, Chairman Committee.

Address—Facts and Fallacies About Breast-Feeding.

Dr. Isaac A. Abt,

Professor of the Diseases of Children, Rush Medical College, University of Chicago.

Discussion opened by Dr. B. R. Hoobler.

Monday, Dec. 7—General Meeting.

The Modern Conception of Chronic Colitis.

Dr. M. A. Mortenson, of Battle Creek.

Discussion opened by Drs. E. W. Haas, Chas. D. Aaron, L. J. Hirschman.

Monday, Dec. 14—Medical Section.

A New Antidote for Corrosive Sublimate Poisoning
Wm. A. Hall, Ph. B.

Report of Case of Corrosive Sublimate Poisoning.
Dr. G. B. Hoops.

Discussion opened by Drs. J. E. Clark, Delos L. Parker, Frank Lydston Newman.

Monday, Dec. 21—General Meeting.

Urology in Women.

Dr. Henry Dawson Furniss, New York City.

Discussion opened by Drs. H. W. Lonyear, Dr. Wm. F. Metcalf, B. R. Schenk.

A PHYSICIAN'S BUSINESS BUREAU.

Attend the meeting next Monday night and have your part in the formation of an effective Business Bureau.

In a November issue of the *Wayne County Medical Society Weekly* there was a report of the joint committee from the Wayne County Medical Association, the East Side Physicians' Association and the West Side Physicians' Club relating to the establishment of a Credit Bureau. The committee gleaned, from various sources, that a number of business needs of the profession could be cared for by the instrumentality of a bureau property equipped and supported by the societies represented.

It is apparent that members of these societies have a sum total income of two million or more dollars per annum. This represents an enormous business which should receive not only individual but concerted study and attention.

To educate one another in the best economic principle applicable to what is usually considered a difficult business, and to procure by virtue of the association of so many physicians what is manifestly impossible for an individual or any small association of individuals, were practical endeavors warranted.

The committee, therefore, seeks to ascertain from members of the societies a free impression of common business needs and business problems amenable to beneficial consideration and treatment through the facilities afforded by a large organization. The report submitted November 2 makes mention of the following:

I. The establishment of a bureau.

II. Said bureau to be called "The Detroit Physicians' Business Bureau.

III. A committee to draft a constitution and by-laws.

IV. Said constitution and by-laws be submitted to each society for approval.

V. A policy as follows:

(a) The listing and prevention of bad accounts.

(b) A physician's business efficiency expert. (Optional.)

(c) A business educational campaign.—Yearly meetings in each society given to the study of better business methods.

(d) Investment information.

(e) Bookkeeping. (Optional.)

(f) Collections. (If deemed advisable later.)

VI. Membership in this Bureau to consist of members in good standing in either the Wayne County Medical Association, The East Side Physicians' Association, the West Side Physicians' Association or any other recognized Medical Society.

VII. This Bureau to be under the control of a Board of Control, for representation from each society.

VIII. The headquarters of this Bureau to be in the Wayne County Medical Society Building.

IX. Provision in the by-laws for written and telephone reports to members.

X. Provision in the by-laws for the payment of listed accounts at the office of the Bureau to a bonded assistant.

To the foregoing such additions may be made as are found necessary and advisable.

There are some pertinent relating facts to this concerted business endeavor; some of those refer

to the statements, "Physicians Are Poor Business Men" and the "Physician's Account is the Last to Be Paid."

There are others integral with the pure scientific life work of the physician, such as the controversy now heard; that the stress of financial, physical, and mental difficulties does not serve for the maximum of productivity. It is, however, beyond argument that modern equipment can be attained and maintained only by a most liberal expenditure of time, effort, and money and it is our conviction that the vast majority of our profession must realize the foregoing means directly from the immediate income of daily practice.

There should be no offence to the traditions of medicine nor to the scientific spirit of practice, if the science of business is given a due share of our attention.

(Signed) James E. Davis.

NOTICE.

At the general meeting of January 4, 1915, two important subjects will be brought up for consideration by the society.

- 1 The delegates and alternates to the Michigan State Medical Society, fifteen of each, will be elected.
2. The Council will report upon the advisability of inviting the American Medical Association to hold the meeting of 1916 in Detroit.

State News Notes

The Ingham County Medical Society has commenced the issuance of a very creditable bulletin. This bulletin, which has been named "Aesculapius" is full of interest and will undoubtedly be of great value in stimulating the interest of the members in their county organization. We suggest that other county societies publishing bulletins place the name of the secretary of the Ingham County Society upon their mailing list.

In honor of his 70th birthday Dr. C. P. Brown of Spring Lake entertained the members of the Grand Haven and Spring Lake Medical Association on November 23. After an enjoyable dinner Dr. A. Vander Veen of Grand Haven presented the host with a beautiful volume of the International Dictionary.

The State Board of Health, together with the Committee on Public Health and Legislation of our State Society, held a joint meeting in Lansing for the purpose of discussing proposed medical legislation that is to be introduced into the legislature during the coming session.

The following Detroit surgeons were conferred with the degree of fellowship of the American College of Surgeons at the November convocation which was held in Washington: Drs. Anna O'Dell, Angus McLean, Oscar LeSure, F. B. Tibbals, and J. B. Matthews.

Dr. T. M. Koon of Grand Rapids, who became ill while visiting at Minneapolis, is reported as practically recovered from his illness and will resume practice during the fore part of the year.

Dr. F. R. Blanchard of Lakeview has sold his practice to Dr. H. N. Flexner of Joliet, Ill., and has moved to Eaton Rapids where he has purchased the practice of Dr. C. W. Ellis.

The Directors of the Oakland County Hospital Association have tendered the hospital building to the city of Pontiac with the provision that the city assume the responsibility of its maintenance.

Representatives of the Catholic Church in Jackson have purchased the White Cross Sanitarium and on Jan. 1, opened it as the Mercy Hospital of Jackson.

Dr. J. Toan, who recently gave up his practice at Muir has been appointed assistant physician at the State Tuberculosis Sanitarium at Howell.

The Ingham County Medical Society have agreed to furnish medical and surgical services to the Lansing Free Clinic.

Drs. W. G. Bird and G. H. Bahlman of Flint announce the establishment of branch offices in Owosso.

Dr. O. B. Lambert of Escanaba has located in Algoma, Wis.

Dr. John Walch of Springfield, Ill. has located in Escanaba.

Dr. W. S. Sharpe has been appointed city health officer of Dowagiac.

Dr. J. B. Bradley of Eaton Rapids is on an extended pleasure trip through the West.

Dr. Fwastell of Detroit has become associated with Dr. L. C. Kent of Onaway.

Dr. A. J. Sahs of Mackinaw City has removed to Cheboygan and is now practicing in that city.

Dr. H. A. Sharpe of L'Anse has recently been elected coroner of Baraga County.

Book Reviews

LOCAL AND REGIONAL ANESTHESIA, including Analgesia. By Carroll W. Allen, M.D., of Tulane University, New Orleans, with an introduction by Rudolph Matas, M.D., of Tulane University, New Orleans. Octavo of 625 pages with 255 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$6.00 net; Half Morocco; \$7.50 net.

If the reader desires to secure the history, principles, practice and actual technic of local anesthesia

and analgesia we unhesitatingly recommend the purchase of this volume. It is a full discussion of every phase on the subject, from every side, and is illustrated most freely and therefore is more valuable as a guide. A careful study warrants us in stating that this work covers the subject in a most instructive manner and so causes it to be recognized as an authority that is difficult to equal.

Miscellany

UNGUENTUM SELENIO-VANADIC (V. ROEMER) IMPROVED.

A Systemic (Percutaneous) and Topical Inunction Medication for the Non-Narcotic Control of Pain and the Palliative Treatment of Inoperable, Recurrent and Metastatic Cancer and other Malignant Diseases.—A Suggestion for Ante-Operative (Modifying) and Post-Operative (Prophylactic) Management of Reasonable Operable Malignant Cases.—A New Therapeutic Agent of the Broadest Usefulness in General Surgery and Medicine.

Since its initial bow, only a few months ago, Unguentum Selenio-Vanadic (v. Roemer) has attracted considerable attention on the part of physicians and surgeons in all sections of the country.

This is due to two circumstances: First, that this product represents, so far, the only rational medium of applying a, by no means new and scientifically established therapeutic principle, which for lack of a sufficiently safe and practical form of medication, has never been given an adequate clinical chance. Second, because being suggested for use in a field in which, of necessity, drug nihilism is rife, the conservative character of the actual claims made for Unguentum Selenio-Vanadic (v. Roemer), has procured for it earnest consideration even in the highest and most skeptic and surgical circles.

As stated above and as has been previously emphasized, Unguentum Selenio-Vanadic (v. Roemer) is not to be regarded as a "cancer cure," nor as one of the numerous suggestions of doing away with the surgeon's work, but only as a readily accessible adjuvant in his and the general practitioner's hands. Its mission is to make rational and successful surgical intervention more frequently possible, to vouchsafe a more lasting effect from the same and to render the patient's existence a more tolerable one when surgical aid has been sought too late, or, when it has failed, as it unfortunately still does in a great proportion of cases in spite of constantly advancing skill and technic.

As has been predicted, however, the remarkable pain-relieving, antiseptic and alterative properties of Unguentum Selenio-Vanadic (v. Roemer) have also come to be utilized extensively and successfully outside of the field of malignant diseases, in the prophylaxis and treatment of local and constitutional

septic, suppurating, ulcerative, irritant and painful processes.

Gratifying as is the recognition which Unguentum Selenio-Vanadic (v. Roemer) has so far received, its general adoption by physicians and surgeons has been somewhat delayed by the fact that the ointments, as first marketed, proved to possess too stiff a base to permit of an entirely satisfactory and thoroughly reliable inunction procedure, the absorption being too slow, uncertain and tedious for the physician, or the attendant, and fraught with too much discomfort for the patient—hence, the frequent desultory use of the ointment resulting in wide fluctuations and, sometimes, in the entire absence of the normal physiologic effect.

This has been completely remedied in Unguentum Selenio-Vanadic (v. Roemer) Improved, the result of considerable experimentation and now exclusively on the market, the older form having been withdrawn. Not only is the base of the new ointment remarkably easily inuncted, but the new active Selenium-Vanadium compound itself has been modified successfully with a view to readier absorption and utilization by the organism.

This modified preparation continues to be manufactured by Mr. Arthur von Roemer, Apothecary of the German Hospital, Brooklyn, N. Y., and consists of 1 per cent. of the double salt of potassium seleno-cyanide of potassium vanadate with $\frac{1}{2}$ per cent. of freshly precipitated amorphous selenium, incorporated in Eucerin, an ointment material which has attracted considerable attention on account of its special adaptability to metal and metallic salt medication by percutaneous inunction. The successful combination with a vanadium salt is made in view of the fact that vanadium, which is somewhat more generally known in therapeutics, also possesses to a marked degree the faculty of acting as "oxygen carrier," resembling hemoglobin in this respect and being therefore able to synergize with, or potentiate, the action of selenium. Furthermore vanadium salts are very active hematogenics, increasing both hemoglobin and red cells, powerful stimulants of leukocytosis and constitutional tonics of proven merit.

The new Unguentum Selenio-Vanadic (v. Roemer) is a light flesh-colored, perfectly uniform, absolutely stable, almost instantaneously absorbed ointment and represents the first thoroughly practicable and rational form of local and constitutional selenium therapy. It is accessible to physicians everywhere, requires no special technic, is innocuous in the doses indicated further on, and free from discomfort for the patient, no matter how far advanced the course of the disease.

Messrs. Schering & Glatz, New York, the exclusive agents for this product, will be glad to supply those interested with full information regarding the extensive selenium literature, showing that the underlying principle of this therapy is by no means a new and experimental one, but that it rests on very well-established scientific foundation.

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Original Articles

THE KINETIC SYSTEM.*

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In this paper I formulate a theory which I hope will harmonize a large number of clinical and experimental data, supply an interpretation of certain diseases, and show by what means many diverse causes produce the same end effects.

Even should the theory prove ultimately to be true, it will meantime be subjected to many alterations. The specialized laboratory worker will at first fail to see the broader clinical view, and the trained clinician may hesitate to accept the laboratory findings. Our viewpoint has been gained from a consideration of both lines of evidence on rather a large scale.

The responsibility for the kinetic theory is assumed by myself, while the responsibility for the experimental data is shared fully by my associates, Dr. J. B. Austin, Dr. F. W. Hitchings, Dr. H. G. Sloan, and Dr. M. L. Menten.

INTRODUCTION.

The self-preservation of man and kindred animals is effected through mechanisms which transform latent energy into kinetic energy to accomplish adaptive ends. Man appropriates from environment the energy he requires in the form of crude food which is refined by the digestive system; oxygen is taken to the blood and carbon dioxid is taken from the blood by the respiratory system; to and from the myriads of working cells of the body, food and oxygen and waste are carried by the circulatory system; the body is cleared of waste by the urinary system; procreation is accomplished through the genital system; but none of these systems are evolved primarily for the purpose of transforming potential energy into kinetic energy for specific ends. Each system transforms such

amounts of potential into kinetic energy as are required to perform its specific work; but no one of them transforms latent into kinetic energy for the purpose of escaping, fighting, pursuing; nor for combating infection. The stomach, the kidneys, the lungs, the heart strike no physical blow—their role is to do certain work to the end that the blow may be struck by another system evolved for that purpose. I propose to offer evidence that there is in the body a system evolved primarily for the transformation of latent energy into motion and into heat. This system I propose to designate The Kinetic System.

The kinetic system does not directly circulate the blood, nor does it exchange oxygen and carbon dioxid; nor does it perform the functions of digestion, urinary elimination and procreation; but though the kinetic system does not directly perform these functions, it does play indirectly an important role in each, just as the kinetic system itself is aided indirectly by the other systems.

The principal organs which comprise the kinetic system are the brain, the thyroid, the suprarenals, the liver and the muscles. The brain is the great central battery which drives the body; the thyroid governs the conditions favoring tissue oxidation; the suprarenals govern immediate oxidation processes; the liver fabricates and stores glycogen; and the muscles are the great converters of latent energy into heat and motion.

Adrenalin alone, thyroid extract alone, brain activity alone, and muscular activity alone are capable of causing the body temperature to rise above the normal. The functional activity of no other gland of the body alone, and the secretion of no other gland alone can cause a comparable rise in body temperature—that is, neither increased functional activity nor any active principle derived from the kidney, the liver, the stomach, the pancreas, the hypophysis, the parathyroid, the spleen, the intestines, the thymus, the lymphatic glands or the bones can,

*Read before the Calhoun County Medical Society Oct., 1914.

per se, cause a rise in the general body temperature comparable to the rise that may be caused by the activity of the brain or the muscles, or by the injection of adrenalin or thyroid extract. Then, too, when the brain, the thyroid, the suprarenals, the liver or the muscles are eliminated, the power of the body to convert latent into kinetic energy is impaired or lost. I shall offer evidence tending to show that an excess of either internal or external environmental stimuli may modify one or more organs of the kinetic system, and that this modification may cause certain diseases. For example, alterations in the efficiency of the cerebral link, may yield neurasthenia, mania, dementia; of the thyroid link, Graves' disease, myxedema; of the suprarenal link, Addison's disease, cardiovascular disease.

This introduction may serve to give the line of our argument. We shall now consider briefly certain salient facts which relate to the conversion of latent energy into kinetic energy as an adaptive reaction. The amount of experimental data is so large that they will later be published in a monograph.

The amount of latent energy which may be converted into kinetic energy for adaptive ends varies in different species, in individuals of the same species, in the same individual in different seasons; in the life cycle of growth, reproduction and decay; in the waking and sleeping hours; in disease and in activity. We shall here consider briefly the reasons for some of those variations and the mechanisms which make them possible.

BIOLOGIC CONSIDERATION OF THE ADAPTIVE VARIATION IN AMOUNTS OF ENERGY STORED IN VARIOUS ANIMALS.

Energy is appropriated from the physical forces of nature that constitute the environment. This energy is stored in the body in quantities in excess of the needs of the moment. In some animals this excess storage is greater than in other animals. Those animals whose self-preservation is dependent on purely mechanical or chemical means of defense—such animals as crustaceans, porcupines, skunks or cobras—have a relatively small amount of convertible (adaptive) energy stored in their bodies. On the contrary, the more an animal is dependent on its muscular activity for self-preservation the more surplus available (adaptive) energy there is stored in its body. It may be true that all animals have approximately an equal amount per kilo of chemical energy—but certainly they have not an equal amount stored in a form which

is available for immediate conversion for adaptive ends.

ADAPTIVE VARIATION IN THE RATE OF ENERGY DISCHARGE.

What chance for survival would a skunk have without odor; a cobra without venom; a turtle without carapace; or a porcupine shorn of its barbs, in an environment of powerful and hostile carnivora? And yet in such an hostile environment many unprotected animals survive by their muscular power of flight alone. It is evident that the provision for the storage of "adaptive" energy is not the only evolved characteristic which relates to the energy of the body. The more the self-preservation of the animal depends on motor activity, the greater is the range of variation in the rate of discharge of energy. The rate of energy discharge is especially high in animals evolved along the line of hunter and hunted, such as the carnivora and the herbivora of the great plains.

INFLUENCES THAT CAUSE VARIATION IN THE RATE OF OUTPUT OF ENERGY IN THE INDIVIDUAL.

Not only is there a variation in the rate of output of energy among various species of animals, but one finds also variations in the rate of output of energy among individuals of the same species. If our thesis that men and animals are mechanisms responding to environmental stimuli be correct, and further if the speed of energy output be due to changes in the activating organs as a result of adaptive stimulation, then we should expect to find physical changes in the activating glands during the cycles of increased activation. What are the facts? We know that most animals have breeding seasons evolved as adaptations to the food supply and weather. Hence there is in most animals a mating season in advance of the season of maximum food supply so that the young may appear at the period when food is most abundant. In the springtime most birds and mammals mate, and in the springtime at least one of the great activating glands is enlarged—the thyroid in animals and in man shows seasonal enlargement. The effect of the increased activity is seen in the song, the courting, the fighting, in the quickened pulse and in a slightly raised temperature. Even more activation than that connected with the season is seen in the physical state of mating—when the thyroid is known to enlarge materially, though this increased activity, as we shall show later, is probably no greater than the increased activity

of other activating glands. In the mating season the kinetic activity is speeded up; in short, there exists a state—a fleeting state—of mild Graves' disease. In the early stage of Graves' disease, before the destructive phenomena are felt, the kinetic speed is high and life is on a sensuous edge. Not only is there a seasonal rhythm to the rate of flow of energy, but there is a diurnal variation, the ebb is at night, and the full tide in the daytime. This observation is verified by the experiments which show that certain organs in the kinetic chain are histologically exhausted, the depleted cells being for the most part restored by sleep.

We have seen that there are variations in speed in different species, and that in the same species speed varies with the season of the year and with the time of day. In addition there are variations also in the rate of discharge of energy in the various cycles of the life of the individual. The young are evolved at high speed for growth, so that as soon as possible they may attain to their own power of self-defense; they must adapt themselves to innumerable bacteria; to food, and to all the elements in their external environment. Against their gross enemies the young are measurably protected by their parents; but the parents—except to a limited extent in the case of man—are unable to assist in the protection of the young against infectious disease.

The cycle of greatest kinetic energy for physiologic ends is the period of reproduction. In the female especially there is a cycle of increased activity just prior to her development into the procreative state. During this time secondary sexual characters are developed—the pelvis expands, the ovaries and the uterus grow rapidly, the mammary glands develop. Again in this period of increasing speed in the expenditure of energy we find the thyroid, the suprarenal, and the hypophysis also in rapid growth. Without the normal development of the ovary, the thyroid and hypophysis, neither the male nor the female can develop the secondary sexual characters, nor do they develop sexual desire nor show seasonal cycles of activity, nor can they procreate. The secondary sexual characters—sexual desire, fertility—may be developed at will—for example, by feeding thyroid products from alien species to the individual deprived of the thyroid.

At the close of the childbearing period there is a permanent diminution of the speed of energy discharge, for energy is no longer needed as it was for self-preservation of the off-spring before adolescence, and for the propagation of the

species during the procreative period. Unless other factors intervene this reduction in speed is progressive until senescent death. The diminished size of the thyroid of the aged bears testimony to the part the activating organs bear in the general decline.

We have now referred to variations in the rate of discharge of energy in different species; in individuals of the same species; in cycles in the same individual—such as the seasons of food supply; the periods of wakefulness and of sleep; the procreative period; and we have spoken of those variations caused artificially by thyroid feeding.

Thus far we have referred to the conversion for adaptive purposes of latent into kinetic energy in muscular and in procreative action. We shall now consider the conversion of latent into kinetic energy in the production of heat¹ and endeavor to answer the question which arises at once: Is there one mechanism for the conversion of latent energy into heat and another mechanism for its conversion into muscular action? What is the adaptive advantage of fever in infection?

THE PURPOSE AND THE MECHANISM OF HEAT PRODUCTION IN INFECTIONS.

Vaughn has shown that the presence in the body of any alien protein causes an increased production of heat, and that there is no difference between the production of fever by foreign proteins and by infections. Before the day of the hypodermic needle and of experimental medicine, the foreign proteins found in the body outside the alimentary tract were brought in by invading micro-organisms. Such organisms interfered with and destroyed the host. The body, therefore, was forced to evolve a means of protection against these hostile organisms. The increased metabolism and fever in infection might operate as a protection in two ways: the increased fever by interfering with bacterial growth, and the increased metabolism by breaking up the bacteria. Bacteriologists have taught us that bacteria grow best at the normal temperature of the body, hence fever must interfere with bacterial growth. With each rise of one degree centigrade the chemical activity of the body is increased 10 per cent. In acute infections there is aversion to food and frequently there is vomiting. In fever, then, we have a diminished intake of energy, but an increased output of energy—hence the available potential

1. We use the terms heat and muscular action in the popular sense, though physicists use them to designate one and the same kind of energy.

energy in the body is rapidly consumed. This may be an adaptation for the purpose of breaking up the foreign protein molecules composing the bacteria. Thus the body may be purified by a chemical combustion so furious that frequently the host itself is destroyed. The problems of immunity are not considered here.

As to the mechanism which produces fever, we postulate that it is the same mechanism as that which produces muscular activity. Muscular activity is produced by the conversion of latent energy into motion, and fever is produced largely in the muscles by the conversion of latent energy into heat. We should, therefore, find similar changes in the brain, the suprarenals, the thyroid and the liver, whatever may be the purpose of the conversion of energy—whether for running, for fighting, for the expression of emotion, or for combatting infection.

We shall first present experimental and clinical evidence which tends to show what part is played by the brain in the production of both muscular and febrile action, and later we shall discuss the parts played by the suprarenals, the thyroid and the liver.

HISTOLOGIC CHANGES IN THE BRAIN-CELLS IN RELATION TO THE MAINTENANCE OF CON- SCIOUSNESS AND TO THE PRODUCTION OF THE EMOTIONS, MUSCULAR ACTIVITY AND FEVER.

We have studied the brain-cells in human cases of fever, and in animals after prolonged insomnia; after the injection of the toxins of gonococci, of streptococci, of staphylococci, and of colon, tetanus, diphtheria and typhoid bacilli; and after the injection of foreign proteins, of indol and skatol, of leucin and of peptones. We have studied the brains of animals which had been activated in varying degrees up to the point of complete exhaustion by running, by fighting, by rage and by fear, by physical injury and by the injection of strychnia. We have studied the brains of salmon at the mouth of the Columbia River and at its headwater; the brains of electric fish, the storage batteries of which had been partially discharged, and of those the batteries of which had been completely discharged; the brains of woodchucks in hibernation and after fighting; the brains of humans who had died from anemia resulting from hemorrhage, from acidosis, from eclampsia, from cancer, and from other chronic diseases. We have studied also the brains of animals after the excision of the suprarenals, of the pancreas, and of the liver.

In every instance the loss of vitality—that is, the loss of the normal power to convert potential into kinetic energy—was accompanied by physical changes in the brain-cells. The converse was also true—that is, the brain-cells of animals with normal vital power showed no histologic changes. The changes in the brain-cells were identical whatever the cause. The crucial question then becomes: Are these constant changes in the brain-cells the result of work done by the brain-cells in running, fighting, in emotion, in fever? In other words, does the brain perform a definite role in the conversion of latent energy into fever or into muscular action; or are the brain-cell changes caused by the chemical products of metabolism? Happily this crucial question was definitely answered by the following experiment: The circulations of two dogs were crossed in such a manner that the circulation of the head of one dog was anastomosed with the circulation of the body of another dog and vice versa. A cord encircled the neck of each so firmly that the anastomosing circulation was blocked. If the brain-cell changes were due to metabolic products, then when the body of dog "A" was injured, the brain of dog "A" would be normal and the brain of dog "B" would show changes. Our experiments showed brain-cell changes in the brain of the dog injured and no changes in the brain of the uninjured dog.

The injection of adrenalin causes striking brain-cell changes—first, a hyperchromatism, then a chromatolysis. Now if adrenalin caused these changes merely as a metabolic phenomenon and not as a "work" phenomenon, then the injection of adrenalin into the earotid artery of a crossed circulation dog would cause no change in its circulation and its respiration, since the brain thus injected is in exclusive vascular connection with the body of another dog. In our experiment the blood-pressure of both dogs were recorded on a drum when adrenalin was injected into the common earotid. The adrenalin caused a rise in blood-pressure, an increase in the force of cardiac contraction, increase in respiration, and a characteristic adrenalin rise in the blood-pressure of both dogs. The rise was seen first in the dog whose brain alone received adrenalin and about a minute later in the dog whose body alone received adrenalin. Histologic examinations of the brains of both dogs showed marked hyperchromatism in the brain receiving adrenalin, while the brain receiving no adrenalin showed no change. Here is a clear cut observation on the action of

adrenalin on the brain—and both the functional and the histologic tests showed that adrenalin causes increased brain action. The significance of this affinity of the brain for adrenalin begins to be seen when I call attention to the following striking facts:

1. Adrenalin alone causes hyperchromatism followed by chromatolysis, and in overdosage causes the destruction of some brain-cells.

2. When the suprarenal glands are both excised and no other factor is introduced, the Nissl substance progressively disappears from the brain-cells until death. This far-reaching point will be taken up later.

Here our purpose is to discuss the cause of the brain-cell changes. We have seen that in crossed brain and body circulation, trauma causes changes in the cells of the brain which is disconnected from the traumatized body by its circulation, but which is connected with the traumatized body by the nervous system. We have seen that adrenalin causes activation of the body connected with its brain by the nervous system, and histologic changes in the brain acted on directly by the adrenalin, but we found no notable brain-cell changes in the other brain through which the products of metabolism have circulated.

In the foregoing we find direct evidence that the products of metabolism are not the principal cause of the brain-cell changes. We shall now present evidence to show that for the most part the brain-cell changes are "work" changes. What work? We postulate that it is the work by which the energy stored in the brain-cells is converted into electricity or some other form of transmissible energy which then activates certain glands and muscles, thus converting latent energy into heat and motion. It has chanced that certain other studies have given an analogous and convincing proof of this postulate. In the electric fish a part of the muscular mechanism is replaced by a specialized structure for storing and discharging electricity. We found "work" changes in the brain-cells of electric fish after all their electricity had been rapidly discharged. We found further that electric fish could not discharge their electricity when under anesthesia, and clinically we know that under deep morphia narcosis, and under anesthesia, the production both of heat and of muscular action is hindered. The action of morphia in lessening fever production is probably the result of its depressing influence on the brain-cells, because of which a diminished amount of their potential energy is converted

into electricity and a diminished electric discharge from the brain to the muscles should diminish heat production proportionally. We found by experiment that under deep morphinization brain-cell changes due to toxins could be largely prevented; in human patients deep morphinization diminishes the production of muscular action and of fever, and as we shall see later conserves life when it is threatened by acute infections. The contribution of the brain-cells to the production of heat is either the result of the direct conversion of their stored energy into heat, or of the conversion of their latent energy into electricity or a similar force, which in turn causes certain glands and muscles to convert latent energy into heat.

A further support to the postulate that the brain-cells contribute to the production of fever by sending impulses to the muscles is found in the effect of muscular exertion, or of other forms of motor stimulation in the presence of a fever-producing infection. Under such circumstances muscular exertion causes additional fever, and causes also added but identical changes in the brain-cells. Thyroid extract and iodine have the same effect as muscular exertion and infection in the production of fever and the production of brain-cell changes. All of this evidence is a strong argument in favor of the theory that certain constituents of the brain-cells are consumed in the work performed by the brain in the production of fever.

That the stimulation of the brain-cells without gross activity of the skeletal muscles and without infection can produce heat is shown as follows:

- (a) Fever is produced when animals are subjected to fear without any consequent exertion of the skeletal muscles.

- (b) The temperature of the anxious friends of patients will rise while they await the outcome of an operation.

- (c) The temperature and pulse of patients will rise as a result of the mere anticipation of a surgical operation.

- (d) There are innumerable clinical observations as to the effect of emotional excitation on the temperature of patients. A rise of a degree or more is a common result of a visit from a tactless friend. There is a traditional Sunday increase of temperature in hospital wards. Now the visitor does not bring and administer more infection to the patient to cause this rise, and the rise of temperature occurs even if the patient does not make the least muscular exertion as a result of the visit. I once

observed an average increase of one and one-eighth degrees of temperature in a ward of fifteen children as a result of a Fourth of July celebration.

Is the contribution of the brain to the production of heat due to the conversion of latent energy directly into heat, or does the brain produce heat principally by converting its latent energy into electricity or some similar form of transmissible energy which through nerve connection stimulates the organs and tissues, which in turn convert their stores of latent energy into heat?

According to Starling, when the connection between the brain and the muscles of an animal is severed by curare, by anesthetics, by the division of the cord and nerves, then the heat-producing power of the animal so modified is on a level with that of cold-blooded animals. With cold the temperature falls, with heat it rises. Such an animal has no more control over the conversion of latent energy into heat than it has over the conversion of latent energy into motion.

Electric stimulation done over a period of time causes brain-cell changes, and electric stimulation of the muscles causes a rise in temperature.

In our crossed circulation experiments we found that neither waste products nor metabolic poisons could be considered the principal cause of the brain-cell changes. We found that in the production both of muscular and of fever there were brain-cell changes which showed a quantitative relation to the temperature changes or to the muscular work done. We observed that under deep morphinization the febrile response or the muscular work done was either diminished or eliminated and that the brain-cell changes were correspondingly diminished or eliminated. We found also that brain-cell changes and muscular work followed electric stimulation alone. I conclude, therefore, that the brain-cell changes were work changes.

We shall next consider other organs of the kinetic system in their relation to muscular activity, to emotion, to consciousness, to sleep, to hibernation, and to heat production.

THE SUPRARENAL GLAND.

In our extensive study of the brain in its relation to the production of energy and the consequent exhaustion caused by fear and rage; by the injection of foreign proteins, of bacterial toxins and of strychnin; by anaphylaxis; by the injection of thyroid extract, of adrenalin, and of morphin; we found that with the excep-

tion of morphin each of these agents produced identical changes in the brain-cells. As we believed that the suprarenal glands were intimately associated with the brain in its activities, we concluded that the suprarenals also must have been affected by each of these agents. To prove this relation, we administered the above mentioned stimuli to animals and studied their effects upon the suprarenal glands by functional, histological and surgical methods. The functional tests were made by Cannon's method.

FUNCTIONAL STUDY OF THE SUPRARENAL GLANDS.

Our method of applying the Cannon test for adrenalin was as follows: (a) The blood of the animals was tested before the application of the stimulus. If this test was negative, then (b) the stimulus was applied and the blood again tested. If this test was negative, a small amount of adrenalin was added. If a positive reaction was then given, the negative result was accepted as conclusive. (c) If the control test was negative, then the stimulus was given. If the blood after stimulation gave a positive result for adrenalin, a second test of the same animal's blood was made twenty-five minutes or more later. If the second test was negative, then the positive result of the first test was accepted as conclusive.

We have recorded sixty-six clear-cut experiments on dogs, which show that after fear and rage; after anaphylaxis; after the injections of indol and skatol; of leucin and tyrosin; of the toxins of diphtheria and colon bacilli; of streptococci, and staphylococci; of foreign proteins and of strychnin, the Cannon test for adrenalin was positive. The test was negative after trauma under anesthesia, and after intravenous injections of thyroid extract, of thyroglobin and of the juices of various organs injected into the same animal from which the organs were taken. Placental extract gave a positive test. The test was sometimes positive after electric stimulation of the splanchnic nerves. On the other hand, if the nerve supply to the suprarenals had been previously divided, or if the suprarenals had been previously excised, then the Cannon test was negative after the administration of each of the foregoing adequate stimuli. Blood taken directly from the suprarenal vein gave a positive result, but under deep morphinization the blood from the suprarenal vein was negative, and under deep morphinization the foregoing adequate stimuli were negative.

In brief, the agencies that in our brain-cell studies were found to cause hyperchromatism followed by chromatolysis, gave positive results

in the Cannon test for adrenalin. The one agent which was found to protect the brain against changes in the Nissl substance—morphin—gave a negative result in the Cannon test for adrenalin. After excision of the suprarenals, or after division of their nerve supply, all Cannon tests for adrenalin were negative.

HISTOLOGIC STUDIES OF THE SUPRARENAL GLANDS

Histologic studies of the suprarenal glands after the application of the adequate stimuli which gave positive results to the Cannon test for adrenalin are now in progress and thus far the histologic studies corroborate the functional tests.

In hibernating woodchucks, the cells of the suprarenal cortex were found to be vacuolated and shrunken. In 100 hours of insomnia, in surgical shock, in strong fear, in exhaustion from fighting, in peptone injections, in acute infections, the suprarenal glands undergo histological changes characteristic of exhaustion. Alkalies cause suprarenal changes, but acids do not.

We have shown that brain and suprarenal activity go hand in hand—that is, that the suprarenal secretion activates the brain, and that the brain activates the suprarenals. The fundamental question which now arises is this: Are the brain and the suprarenals interdependent? A positive answer may be given to this question, for the evidence of the dependence of the brain upon the suprarenals is as clear as is the evidence of the dependence of the suprarenals upon the brain. (1) After excision of the suprarenals, the brain-cells undergo continuous histological and functional deterioration until death. During this time the brain progressively loses its power to respond to stimuli and there is also a progressive loss of muscular power and a diminution of body temperature. (2) In our crossed circulation experiments we found that adrenalin alone could cause increased brain activity, while histologically we know that adrenalin alone causes an increase of the Nissl substance. An animal both of whose suprarenals had been excised showed no hyperchromatism in the brain-cells after the injection of strychnin, toxins, foreign proteins, etc. (3) When the suprarenal nerve supply is divided (Cannon-Elliott), then there is no increased suprarenal activity in response to adequate stimuli.

From these studies we are forced to conclude not only that the brain and suprarenals are interdependent, but that the brain is actually more dependent upon the suprarenals than the

suprarenals upon the brain, since the brain deteriorates progressively to death without the suprarenals, while the suprarenal whose connection with the brain has been broken by the division of its nerve supply will still produce sufficient adrenalin to support life.

From the strong affinity of the brain-cells for adrenalin which was manifested in our experiments, we may strongly suspect that the Nissl substance is a volatile, extremely unstable combination of certain elements of the brain-cells and adrenalin because the suprarenal glands alone do not take the Nissl stain and the brain deprived of adrenalin does not take the Nissl stain. The consumption of the Nissl substance in the brain-cells is lessened or prevented by morphin as is the output of adrenalin; and the consumption of the Nissl substance is also lessened or prevented by nitrous oxid. But morphin does not prevent the action of adrenalin injected into the circulation, hence the control of morphin over energy expenditure is exerted directly on the brain-cells. Apparently morphin and nitrous oxid both act through this interference with oxidation in the brain. We therefore, conclude that within a certain range of acidity of the blood adrenalin can unite with the brain-cells only through the mediation of oxygen, and that the combination of adrenalin, oxygen and certain brain-cell constituents causes the electric discharge that produces heat and motion. In this inter-relation of the brain and the suprarenals, we have what is perhaps the master key to the automatic action of the body. Through the special senses environmental stimuli reach the brain and cause it to liberate energy which in turn activates certain other organs and tissues, among which are the suprarenal glands. The increased output of adrenalin activates the brain to still greater activity, as a result of which again the entire sympathetic nervous system is further activated, as is manifested by increased heart action, more rapid respiration, raised blood-pressure, increased output of glycogen, increased power of the muscles to metabolize glucose, etc.

If this conclusion is well founded, we should find corroborative evidence in histologic changes in that great store-house of potential energy, the liver, as a result of the application of each of the adequate stimuli which produced brain-cell and suprarenal changes.

THE LIVER.

Prolonged insomnia, prolonged physical exertion, infections, injections of toxins, and of

strychnin, rage and fear, physical injury under anesthesia, in fact all of the adequate stimuli which affected the brain and the suprarenals, produced constant and identical histologic changes in the liver—the cells stained poorly, the cytoplasm was vacuolated, the nuclei were crenated, the cell membranes were irregular, the most marked changes occurring in the cells of the periphery of the lobules. In prolonged insomnia the striking changes in the liver were repaired by one season of sleep.

Are the histologic changes in the liver cells due to metabolism or toxic products or are they “work” changes incident to the conversion of latent into kinetic energy? Are the brain, suprarenals, and liver interdependent? The following facts establish the answers to these queries:

(1) The duration of life after excision of the liver is about the same as after adrenalectomy—approximately eighteen hours.

(2) The amount of glycogen in the liver was diminished in all of the experiments showing brain-suprarenal activity; and when the histologic changes were repaired, the normal amount of glycogen was again found.

(3) In crossed circulation experiments changes were found in the liver of the animal whose brain received the stimulus.

From these premises we must consider that the brain, the suprarenals, and the liver are mutually dependent on each other for the conversion of latent energy into kinetic. Each is a vital organ—each equally vital. It may be said that excision of the brain may apparently cause death in less time than excision of the liver or suprarenals, but this statement must be modified by our definition of death. If all the brain of an animal be removed by decapitation, its body may live on for at least eleven hours if its circulation be maintained by transfusion. An animal may live for weeks or months after excision of the cerebral hemispheres and the cerebellum, while an overtransfused animal may live many hours, for days even, after the destruction of the medulla. It is possible even that the brain actually is a less vital organ than either the suprarenals or the liver.

In our research to discover whether any other organs should be included with the brain, the suprarenals and the liver in this mutually interdependent relation, we hit upon an experiment which throws light upon this problem.

Groups of rabbits were gently kept awake for 100 hours by relays of students—an experiment which steadily withdrew energy but caused

not the slightest physical or emotional injury to any of them; no drug, toxin, or other agent was given to them; they were given sufficient food and drink. In brief, the internal and external environments of these animals were kept otherwise normal excepting for the gentle stimuli which ensured continued wakefulness. This protracted insomnia gradually exhausted the animals completely, some to the point of death even. Some of the survivors were killed immediately after the expiration of 100 hours of wakefulness, others after varying intervals.

Histological studies were made of every tissue and organ in the body. Three organs, the brain, the suprarenals, and the liver, and these three only showed histologic changes. In these three organs the histologic changes were marked, and were almost wholly repaired by one season of sleep. In each instance these histologic changes were identical with those seen after physical exertion, emotions, toxins, etc. It would appear, then, that these three organs take the stress of life—the brain is the “battery,” the suprarenals the “oxydizer,” and the liver the “gasoline tank.” The clear-cut insomnia experiment corresponds precisely with our other brain-suprarenal observations.

With these three kinetic organs we may surely associate the “furnace,” the muscles, in which the energy provided by the brain, suprarenals and liver, plus oxygen, is fabricated into heat and motion.

Benedict in his monumental work on metabolism has demonstrated that in the normal state, at least, variations in the heart beat parallel variations in metabolism. He and others have shown also that all the energy of the body, whether evidenced by heat or by motion, is produced in the muscles. In the muscles then, we find the fourth vital link in the kinetic chain. The muscles move the body, circulate the blood, effect respiration, and govern the body temperature. They are the passive servants of the brain-suprarenal-liver syndrome.

Neither the brain, the suprarenals, the liver, nor the muscles, however, nor all of these together have the power to change the rate of the expenditure of energy; to make possible the increased expenditure in adolescence, in pregnancy, in courting and mating, in infections. No one of these organs, nor all of them together, can act as a pacemaker or sensitizer. The brain acts immediately in response to the stimuli of the moment; the suprarenals respond instantly to the fickle brain and the effects of their relations are fleeting; the liver contains fuel only

and cannot activate, and the muscles in turn act as the great furnace, in which the final transformation into available energy is made.

THE THYROID.

Another organ—the thyroid—has the special power of governing the *rate of discharge* of energy; in other words, the thyroid is the pace-maker. Unfortunately, the thyroid cannot be studied to advantage either functionally or histologically, for there is as yet no available test for thyroidism in the blood as there is for adrenalin, and thyroid activity is not attended by striking histologic changes. Therefore the only laboratory studies which have been satisfactory thus far are those by which the iodine content of the thyroid has been established. Iodine is stored in the colloid lacunae of the thyroid and in combination with certain proteins is the active agent of the thyroid.

Beebe has shown that electrical stimulation of the nerve supply of the thyroid diminishes the amount of iodine which it contains and it is known that in the hyperactive thyroid in Graves' disease the iodine content is diminished. The meagerness of laboratory studies, however, is amply compensated by the observations which the surgeon has been able to make on a vast scale—observations which are as definite as are the results of laboratory experiments.

The brain-cells and the suprarenal glands are securely concealed from the eye of the clinician, hence the changes produced in them by different causes escape his notice, but the thyroid has always been closely scrutinized by him. The clinician knows that every one of the above mentioned causes of increased brain-cell, suprarenal, liver and muscle activity may cause an increase in the activity of both the normal or the enlarged thyroid; and he knows only too well that in a given case of exophthalmic goiter, the same stimuli which excite the brain, the suprarenals, the liver, and the muscles to increased activity will also aggravate this disease.

The function of the thyroid in the kinetic chain is best evidenced, however, by its role in the production of fever. Fever results from the administration of thyroid extract alone in large doses. In the hyper-activity of the thyroid in exophthalmic goiter, one sees a marked tendency to fever; in severe cases there is daily fever. In fact, in Graves' disease we find displayed to an extraordinary degree an exaggeration of the whole action of the kinetic mechanism.

We have stated that in acute Graves' disease there is a tendency to the production of spon-

taneous fever, and that there is a magnified diurnal variation in temperature which is due to an increased output of energy in even the normal reaction producing consciousness. In Graves' disease there is, therefore, a state of intensified consciousness, which is associated with low brain thresholds to all stimuli—both to stimuli that cause muscular action and to stimuli that cause fever. The intensity of the kinetic discharge is seen in the constant fine tremor. It is evident that the thresholds of the brain have been sensitized. In this hypersensitization we find the following strong evidence as to the identity of the various mechanisms for the production of fever. In the state of superlative sensitization which is seen in Graves' disease, we find that the stimuli that produce muscular movement, the stimuli that produce emotional phenomena and the stimuli that produce fever are as nearly as can be ascertained equally effective. Clinical evidence regarding this point is abundant, for in patients with Graves' disease we find that the three types of conversion of energy resulting from emotional stimulation, from nociceptor stimulation (pain), and from infection stimulation are, as nearly as can be judged, equally exaggerated. In the acute cases of Graves' disease the explosive conversion of latent energy into heat and motion is unexcelled by any other known normal or pathological phenomenon. Excessive thyroid secretion, as in thyrotoxicosis from functioning adenomata, and excessive thyroid feeding, cause all the phenomena of Graves' disease, except the exophthalmos and the emotional facies. The ligation of arteries, division of its nerve supply and excision of part of the gland may reverse the foregoing picture and restore the normal condition. The patient notes the effect on the second day and often within a week is relatively quiescent. On the contrary if there is thyroid deficiency there is the opposite state, a reptilian sluggishness.

At will, then, through diminished, normal or excessive administration of thyroid secretion, we may produce an adynamic, a normal or an excessively dynamic state. By the thyroid influence, the brain thresholds are lowered and life becomes exquisite; without its influence the brain becomes a globe of relatively inert substance. Excessive doses of iodine alone cause most of the symptoms of Graves' disease. The active constituent of the thyroid is iodine in a special protein combination. This is stored in the colloidal spaces. Hence one would not expect to find changes in the cells of the thyroid gland as a result of increased activity unless it be prolonged.

We have thus far considered the normal roles played by the brain, the suprarenals, the liver, the muscles and the thyroid in transforming latent into kinetic energy in the form of heat and motion as an adaptive response to environmental stimuli.

The argument may be strengthened, however, by the discussion of the effect of the impairment of any of these links in the kinetic chain upon the conversion of latent into kinetic energy.

EFFECT UPON THE OUTPUT OF ENERGY OF IMPAIRED OR LOST FUNCTION OF EACH OF SEVERAL LINKS IN THE KINETIC CHAIN.

1. *The Brain: Cerebral Softening.*—In cerebral softening we may find all the organs of the body comparatively healthy excepting the brain. As the brain is physically impaired it cannot stimulate other organs to the conversion of latent energy into heat or into motion, but on the contrary in these cases we find feeble muscular and intellectual power. I believe also we find that in patients with cerebral softening, infections such as pneumonia show a lower temperature range than in patients whose brains are normal.

2. *The Suprarenals.*—In such destructive lesions of the suprarenal glands as Addison's disease one of the cardinal symptoms is a sub-normal temperature and impaired muscular power. Animals upon whom double adrenalectomy has been performed show a striking fall in temperature, muscular weakness—after adrenalectomy the animal may not be able to stand even—and progressive chromatolysis.

3. *The Liver.*—When the function of the liver is impaired by tumors, cirrhosis, or degeneration of the liver itself then the entire energy of the body is correspondingly diminished. This diminution of energy is evidenced by muscular and mental weakness, by diminished response and by gradual loss of efficiency which finally reaches the state of asthenia.

4. *The Muscles.*—It has been observed clinically that if the muscles are impaired by long disuse, or by a disease such as myasthenia gravis, the range of production of both heat and motion is below normal. This is an agreement with the experimental findings that anesthetics, curare, or any break in the muscle-brain connection causes diminished muscular and heat production.

5. *The Thyroid.*—In myxedema one of the cardinal symptoms is a persistently sub-normal temperature and though prone to infection, sub-

jects of myxedema show but feeble febrile response and readily succumb. This clinical observation is strikingly confirmed by laboratory observations; normal rabbits subjected to fear showed a rise in temperature of from one to three degrees while two rabbits whose thyroids had been previously removed and who had then been subjected to fright showed much less febrile response. Myxedema subjects show a loss of physical and mental energy which is proportional to the lack of thyroid. Deficiency in any of the organs of the kinetic chain causes a like loss of heat, loss of muscular and emotional action, of mental power and of the power of combatting infections—the negative evidence thus strongly supports the positive. By accumulating all the evidence we believe we are justified in associating the brain, the suprarenals, the thyroid, the muscles and the liver as vital links in the kinetic chain. Other organs play a role undoubtedly, though a minor one.

STUDIES IN HYDROGEN ION CONCENTRATION IN ACTIVATION OF THE KINETIC SYSTEM.

Having established the identity of some, at least, of the organs which constitute the kinetic chain, we endeavored to secure still further evidence regarding the energy-transforming function of these organs by making studies of the H-ion concentration of the blood as one would expect, *prima facie*, that the normal reaction would be altered by kinetic activation.

H-ion concentration tests were made after the application of the adequate stimuli by which the function of the kinetic organs had been determined and we studied also the effect upon the acidity of the blood of strychnin convulsions after destruction of the medulla; of deep narcotization with morphin before anesthesia; of deep narcotization with morphine after the H-ion concentration had already been increased by fear, by anger, by exertions, by injury under anesthesia, or by anesthesia alone.

The complete data of these experiments will be later reported in a monograph; here it is sufficient to state that anger, fear, injury, muscular exertion, inhalation anesthesia, strychnin, alcohol—in fact, all of the stimuli which we had already found to produce histologic changes in the brain, the suprarenals, and the liver—excepting bacterial toxins—caused increased H-ion concentration. Of striking significance is the fact that morphin alone caused no change in the H-ion concentration, while if administered before the application of a stimulus which by itself produced increased H-ion concentration,

the action of that stimulus was neutralized or postponed. If, however, morphin was administered *after* the increased acidity had been produced by any stimulus, or by inhalation anesthesia, then the time required for the restoration of the normal alkalinity was much prolonged and in some instances the power of acid neutralization was permanently lost.

After excision of the liver, the normal H-ion concentration was maintained for periods varying from one to several hours after which the concentration (acidity) began to increase as the vitality of the animal began to decline—the concentration (acidity) increasing rapidly until death. After excision of the suprarenals the blood remained normal for from four to six hours when the H-ion concentration increased rather suddenly—the increase being synchronous with the incidence of the phenomena which immediately preceded death.

In none of these cases was it determined whether the increased H-ion concentration was due to other causes of death or whether death was due to the increased acidity.

It is also significant that after the application of each of the adequate stimuli which increased the H-ion concentration of the blood in other parts of the body, the blood from the suprarenal vein showed a slight diminution in acidity as in most instances did the blood from the hepatic vein also.

KINETIC DISEASES.

If our conclusions are sound, then in the kinetic system we find an explanation of many diseases, and having found the explanation, we find new methods of combating them.

When the kinetic system is driven at an overwhelming rate of speed—as by severe physical injury, by intense emotional excitation, by the perforation of the intestines, by the pointing of an abscess into new territory, by the sudden onset of an infectious disease, by an overdose of strychnin, by a Marathon race, by a grilling fight, by foreign proteins, by anaphylaxis, the result of these acute overwhelming activations of the kinetic system is clinically designated shock, and according to the cause is called traumatic shock, toxic shock, anaphylactic shock, drug shock, etc.

The essential pathology of shock is identical whatever the cause. If, however, instead of an intense overwhelming activation, the kinetic system is continuously or intermittently overstimulated through a considerable period of time, as long as each of the links in the kinetic

chain takes the strain equally the result will be excessive energy conversion—excessive work done: but usually, under stress, some one link in the chain is unable to take the strain and then the evenly balanced work of the several organs of the kinetic system is disturbed. If the brain cannot endure the strain, then neurasthenia, nerve exhaustion, or even insanity follows. If the thyroid cannot endure the strain it undergoes hyperplasia, which in turn may result in a colloid goiter or in exophthalmic goiter. If the suprarenals cannot endure the strain, cardiovascular disease may develop. If the liver cannot take the strain then death from acute acidosis may follow, or if the neutralizing effect of the liver is only partially lost, then the acidity may cause Bright's disease. Over-activation of the kinetic system may cause glycosuria and diabetes.

Identical physical and functional changes in the organs of the kinetic system may result from intense continued stimulation from any of the following causes; excessive physical labor, athletic exercise, worry or anxiety, intestinal auto-intoxication, chronic infections, such as oral sepsis, tonsillitis and adenoids; chronic appendicitis, chronic cholecystitis, colitis, and skin infections; the excessive intake of protein food (foreign protein reaction); emotional strain, pregnancy, stress of business or professional life—all of which are known to be activators of the kinetic system.

From the foregoing statements we are able to understand the muscular weakness following fever; we can understand why the senile have neither muscular power nor strong febrile reaction; why long continued infections produce pathologic changes in the organs constituting the kinetic chain; why the same pathologic changes result from various forms of activation of the kinetic system. In this hypothesis we find a reason why cardiovascular disease may be caused by chronic infection, by auto-intoxication, by overwork, or by emotional excitation. We now see that the reason why we find so much difficulty in differentiating the numerous acute infections from each other is because they play upon the same kinetic chain. Our postulate harmonizes the pathological democracy of the kinetic organs, for it explains not only why in many diseases the pathological changes in these organs are identical, but why the same changes are seen as the result of emotional strain and over-work. We can thus understand how either emotional strain or acute or chronic infection may cause either exophthalmic goiter or cardiovascular disease; how chronic intes-

tinal stasis with the resultant absorption of toxins may cause cardiovascular disease, neurasthenia or goiter. Here is found an explanation of the phenomena of shock, whether the shock be the result of toxins, of infection, of foreign proteins, of anaphylaxis, of psychic stimuli, or of a surgical operation with its combination of both psychic and traumatic elements.

This conception of the kinetic system has stood a crucial test by making possible the shockless surgical operation. It has offered a plausible explanation of the cause and the treatment of Graves' disease. Will the kinetic theory stand also the clinical test of controlling that protean disease bred in the midst of the stress of our present-day life? Present-day life, in which one must ever have one hand on the sword and the other on the throttle, is a constant stimulus of the kinetic system. The force of these kinetic stimuli may be lessened at the cerebral link by intelligent control—a protective control is empirically attained by many of the most successful men. The force of the kinetic stimuli may be broken at the thyroid link by dividing the nerve supply, reducing the blood supply, or by partial excision; or if the suprarenals feel the strain, the stimulating force may be broken by dividing their nerve supply, reducing the blood supply or by partial excision. No theory is worth more than its yield in practice, but already we have the shockless operation, the surgical treatment of Graves' disease, and the control of shock and of acute infections by overwhelming morphinization.

CONCLUSIONS.

To become adapted to their environment animals are transformers of energy. This adaptation to environment is made by means of a system of organs evolved for the purpose of converting potential energy into heat and motion. The principal organs and tissues of this system are the brain, the suprarenals, the thyroid, the muscles and the liver. Each is a vital link—each plays its particular role and one cannot compensate for the other. A change in any link of the kinetic chain modifies proportionately the entire kinetic system, which is no stronger than its weakest link.

In this conception we find a possible explanation of many diseases—one which may point the way to new and more effective therapeutic measures than those now at our command.

POST-OPERATIVE ILEUS AND ILEUS ACCOMPANYING PERITONITIS.*

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The progress of surgery during the past few decades has been so rapid; the cry for early diagnosis and early treatment has been so rampant, that to discuss a subject that deals with the delayed and even neglected complications of abdominal disease, seems almost superfluous. This verdict applies especially to that part of my subject which treats of ileus accompanying peritonitis. Post-operative ileus is not always avoidable, but there ought to be no cases of ileus accompanying peritonitis. When ileus and peritonitis follow appendicitis for instance, it is evidence that somebody has made a mistake. Even when pus is found in appendicitis, it is evidence that someone has blundered. Yet every now and then, such cases enter our hospitals; cases in which every vestige of the original clinical picture have disappeared, the avoidable complication, ileus and peritonitis, alone being prominent. It is not often the physician nor is it the surgeon who is to blame. It is not infrequently the patient himself or some officious member of the patient's family who interferes or does not send for the doctor early enough.

Given, then, a patient with the symptom of ileus, namely, continuous vomiting, pain, meteorism and coprostasis, whether these follow some operative procedure or whether they are present in an advanced case of peritonitis from any cause, what can we do to prevent a fatal outcome and on what does the fatal outcome depend?

The latter question—On what does the fatal outcome depend—has, in the course of time, given rise to varied discussions. The theory that death in these cases is due to the absorption of toxins, both chemical and bacteriological, has many defenders. That such is the case has not been proven, either clinically or experimentally. In a series of experiments by Dr. McLean and myself,¹ we showed that such toxins could not be demonstrated in the stomach or duodenal secretions, in the serum or in the blood of dogs dying from ileus. Later we showed, that the gas liberated in the intestine of an ileus dog, proved non-toxic to a normal dog. The only conclusion we could arrive at was, that death was due to a depletion of the vascular and

*Read before the Section on Surgery, 49th Annual Meeting, M.S.M.S. held in Lansing, September 10-11, 1914.

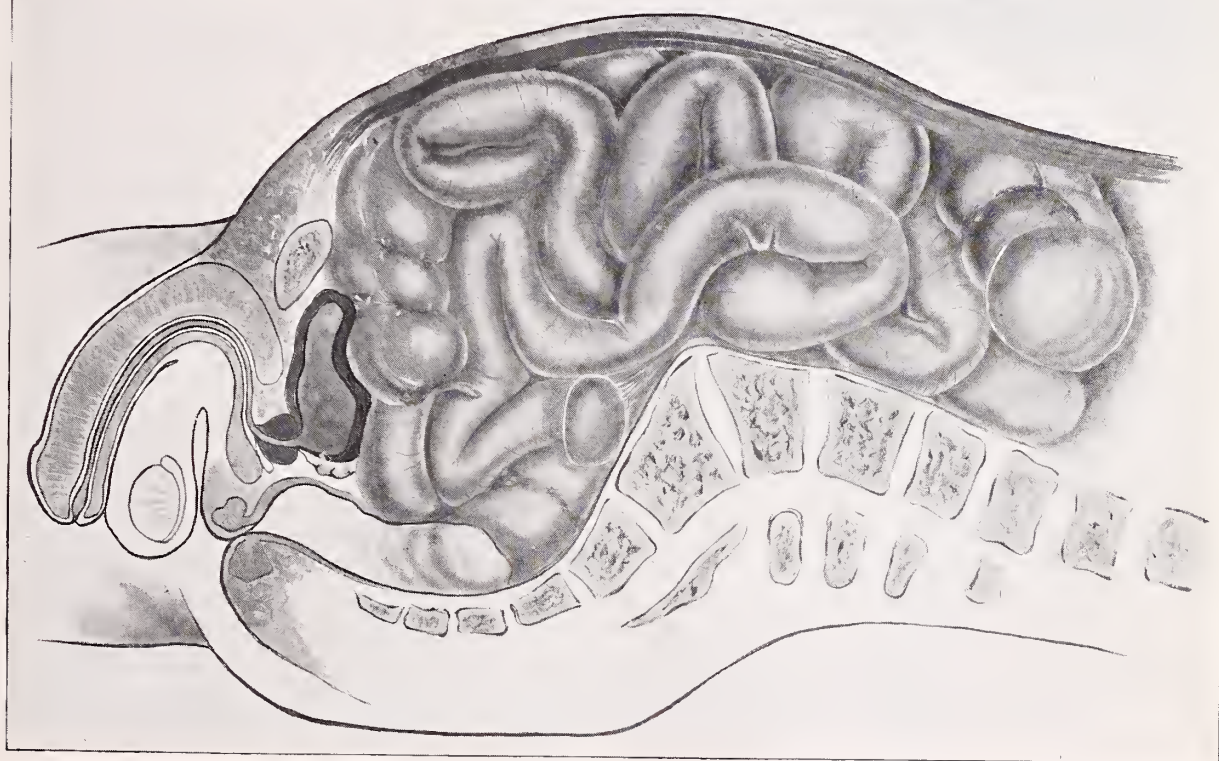
1. Jour. A.M.A., Nov. 2, 1912, p. 1614.

lymph system, causing a grave disturbance in the circulation, especially the cerebral circulation, and that a pathological change in the sympathetic nervous system, a loss of sympathetic control, was probably contributory.

If we look at the clinical picture that confronts us in ileus, we can readily see how there must be a great depletion of the vascular and lymph systems. In the patient suffering with ileus, the abdomen is distended almost to the point of bursting; copious, watery vomiting is incessant, and even after the act of vomiting, the stomach tube will still bring forth large

is the following: The gradual accumulation of gas in the intestinal tract progresses to a state where it produces an overdistention of the musculature of the bowel. This overdistention causes a paralysis, just as overdistention of the bladder causes a paralysis of this viscus. The pressure thus exerted occasions a disturbance in the sympathetic nervous system, a loss of sympathetic control; the abdominal blood vessels become overfilled and the transudation into the hollow viscera begins. The transuded fluids, emptying into the stomach and intestine, finally overflow as vomitus. They are expelled, not so

POST OPERATIVE ILEUS



quantities of dark green or black fluids, all sapped, as it were, from the blood vessels, through the medium of the bile passages, pancreatic ducts and intestinal mucosa. From our experiments we have shown that the amount of fluids thus lost during the course of an ileus death (which for a dog is an average of sixty-seven hours) is equal to about one-tenth of the body weight. Such a loss of fluid is beyond doubt an enormous drain on the system and certainly causes profound depression.

The precise physiological process, by which the enormous transudation of fluids occurs, is to a certain extent conjectural. A plausible theory, however, by which this process can be explained,

much by an act of vomiting, as by an overflowing of an overfilled stomach, as the stomach tube so well demonstrates.

Assuming, then, that depletion of the system is largely responsible for the grave condition of a patient suffering from ileus, is this of an equal importance, whether the ileus is a post-operative condition or whether it is concomitant with peritonitis?

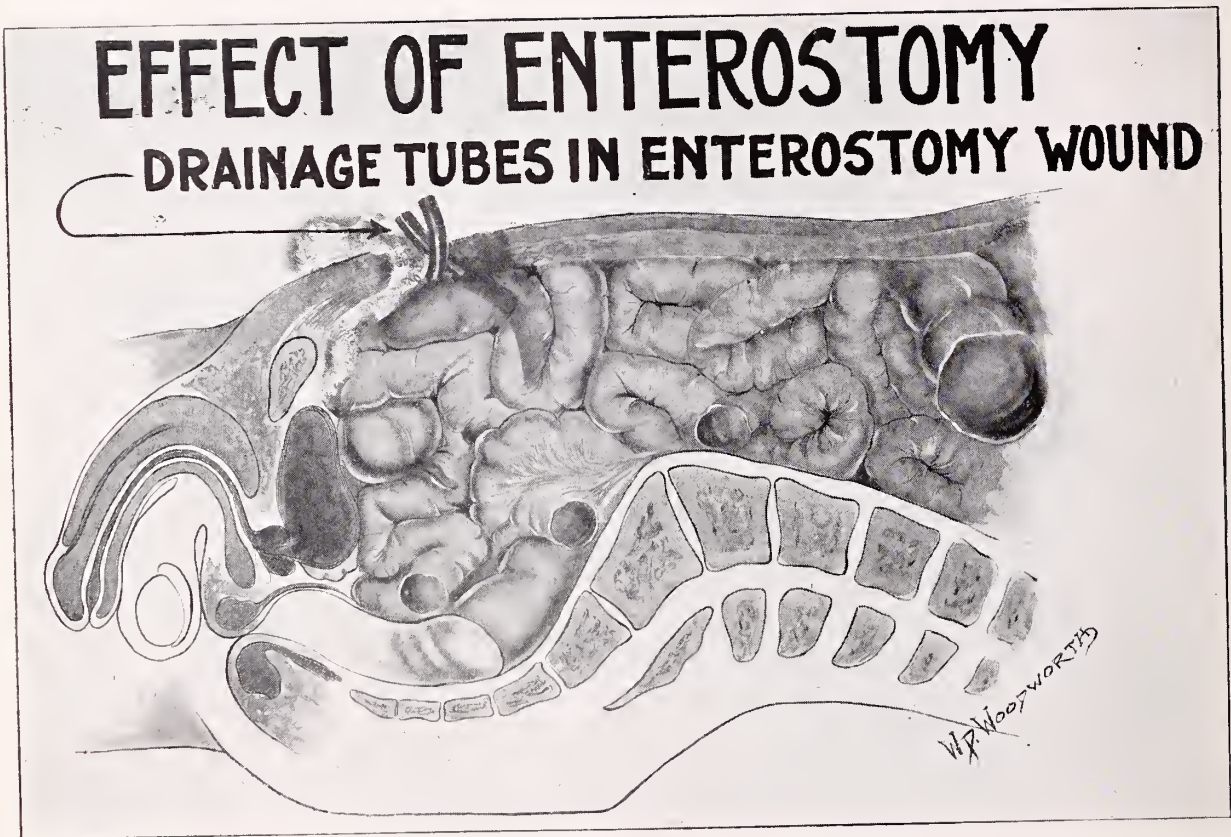
If we compare uncomplicated post-operative ileus and ileus accompanying peritonitis, we find that there is an essential difference. In the former, there is no bacterial inflammation and consequently no absorption of bacteria and their toxins, while in the latter, this element, as can

be proven by cultures from the peritoneum and blood, does enter into the consideration. The same treatment will, however, benefit either condition. It is true that in ileus complicated by peritonitis, the treatment will not cause such an immediate and marked improvement; nevertheless it proves most efficient. A few cases, cited below, will demonstrate this fact.

How then are we to proceed in the treatment of ileus? First of all by prevention. In the post-operative variety, this consists in scrupulously avoiding any procedure that might tend to bring on the condition; such as, prolonged

tion should be made of pituitrin. In our experience one cubic centimeter of pituitrin administered immediately after operation and repeated in about eight hours, has materially reduced the amount of post-operative abdominal distention. What the exact physiological action is, has not been definitely proven; it seems to stimulate contraction. Whatever its action, however, it does cause the expulsion of flatus even during the first twenty-four hours. As a preventive for ileus, it certainly deserves a more universal trial.

Of the simple procedures that often prove



anesthesia, needless exposure of abdominal viscera and extensive manipulation, especially pulling on the mesentery.

As for ileus that accompanies peritonitis, it is imperative to adopt all means at our disposal to prevent peritonitis in the first place. Here the old cry, early diagnosis and early operative interference is the only solution of the problem. Cases of appendicitis should not be allowed to rupture and cause peritonitis and likewise all other conditions that are liable to cause a peritonitis should be diagnosed and dealt with in their incipiency, that is, before it is possible for a peritonitis to develop therefrom. Until this is accomplished we will always be called upon to treat cases of ileus.

In the prevention of post-operative ileus men-

useful in combating ileus are, the early administration of castor oil, esserine salicylate, physostigmine, atropin, repeated gastric lavage and enemata. Of these, the last mentioned, gastric lavage and enemata are probably the most important. Ordinarily these should be repeated every two or three hours. If after their repeated trial the condition is not ameliorated, their use should not be persisted in too long, for thereby valuable time is lost and the condition of the patient may be reduced to a state when even a more radical procedure will be of no avail.

At this juncture I wish to state that we cannot and should not treat our patients dogmatically. No two cases are alike. To adopt a general rule and apply it universally eliminates one's personal experience and judgment. Par-

ticularly is this true in ileus. Oftentimes cases that are far advanced and seem hopeless are benefitted by the simple procedure above enumerated. Therefore, to assume, that every case of ileus must be treated by a radical surgical operation is just as wrong as to assume that every case must be left alone and treated medically.

The radical procedure the writer here has reference to is enterostomy or the act of producing a fistulous opening from somewhere in the intestinal tract through the abdominal wall, for the purpose of providing a new outlet for the retained gases and fluids.

To those who have not seen the benefits derived from this procedure, it must indeed seem radical in the extreme. Such, however, is not the case, especially when we consider it a life saving measure and in many cases, a choice between enterostomy and death. Every surgeon remembers well, cases of appendicitis for instance, in which the appendix has been removed, efficient drainage instituted and yet in spite of all, at the end of three, four or five days the patient is still vomiting, his abdomen is still intensely distended, and he is unable, even with the help of enemata to secure an effective bowel movement: when, much to the surprise of all concerned, the patient suddenly feels quite comfortable, vomiting ceases, and pain and distension considerably disappear; all due to the fact that nature herself has formed a new outlet for the gases and transuded fluids that had been locked up in the intestinal tract on account of the inability of the paralyzed gut to propel them to their natural outlet. It is true that the discharges from the wound will have changed from a purulent to a purulent and fecal character, but of what consequence is this when we realize that the critical state of the patient is over; that he, who before was extremely distressed with vomiting and distention, is now at ease and again desirous for food and drink. If nature often accomplishes a cure in this manner, after days of struggling on the part of the patient, why should not the surgeon imitate her in effort, spare the patient needless suffering, and at the same time enormously increase his chances for recovery? This is precisely what an enterostomy will accomplish.

It was stated above that the critical condition of the patient is due to distention, the irritation of which to the sympathetic nervous system, causes a disturbance in the abdominal blood vessels. These become overfilled and the transudation of fluids into the intestinal tract

follows. An enterostomy lessens this abdominal distention almost immediately; with it, the irritation in the paralyzed gut is allayed and the further influx of blood to the abdominal vessels prevented.

At this stage the depletion of the vascular system will have been considerable. This damage can easily be repaired by the free administration of normal saline solution, either intravenously, subcutaneously or by rectum. Hartwell and Houget² well demonstrated the value of saline in sustaining life for three or four weeks or until death from starvation takes place, even in the face of mechanical ileus. By their experiments they have shown that an ileus dog, who ordinarily dies in seventy hours, can be made to live for three or four weeks, by the subcutaneous administration of saline. By so doing they add to the circulation an amount of fluid slightly in excess to that transuded into the stomach and intestine and lost as vomitus. As much as 500 cubic centimeters of saline were injected into a dog daily.

An enterostomy, to be successful in these extreme cases, must be done without added shock to the patient. This can readily be accomplished at the primary operation in cases of peritonitis accompanied by ileus, and in post-operative ileus under local anesthesia, either by separating the edges of the old incision or by making another small opening. Any presenting distended loop of ileum (preferably one near the cecum) can be caught, fastened to the cut edges of the parietal peritoneum by two or three sutures and opened by a small longitudinal incision. Gas and fecal stained fluids will immediately be forced out in large quantities and the relief to the patient is at once apparent. To insure the patency of the opening in the gut, a rubber drainage tube is inserted towards the proximal end. If in doubt as to which end is proximal, a tube can be inserted in both directions.

Closure of the enterostomy wound is undertaken in two or three weeks. By this time the bowel will have fully recovered its tone. Towards the end of this time enemata are usually effectual and in some cases even normal bowel movements occur. If at this time feces cannot be evacuated per rectum, it is advisable to defer closure of the enterostomy wound longer than two or three weeks. It will be remembered that the opening made in the bowel at the time the enterostomy was performed, was only a small longitudinal slit. Simple apposition of the

2. Jour. A.M.A., July 13, 1913.

edges reinforced by a few Lembert sutures is all that is necessary. Occasionally, an enterostomy wound will even close without an operation, just as nature's fecal fistulae usually close spontaneously. It is rarely necessary to free all adhesions; make a wide resection of the bowel at the point of the opening and perform an end to end anastomosis.

CASE REPORTS.

CASE I. Mr. B. G. Age 41; entered hospital with large appendiceal abscess of ten days' duration. His abdomen was immensely distended and he was vomiting continuously.

Operation.—Under gas anesthesia, peritoneal cavity was drained through appendix incision and through supra pubic stab wound. The appendix was not easily found and therefore left *in situ*.

Post-Operative.—For the next ten days patient's condition was poor. Occasionally he would pass flatus and small quantities of fecal matter but there was never a good bowel movement. During this time he vomited frequently. Stomach lavage was of little avail. On the eleventh day, the distention grew still worse and the amount of fluid withdrawn from the stomach immediately after the act of vomiting, increased. An enterostomy was therefore decided upon and performed under local anesthesia. The day following the enterostomy his condition was considerably improved. Vomiting ceased and distention disappeared. Twenty-six days after the enterostomy was performed it was successfully closed under gas anesthesia. The patient left the hospital two weeks later.

Comment.—This patient was in a very serious condition when admitted into the hospital. Had we to repeat the treatment of this case, we surely would perform an enterostomy at the time of the first operation. We believe that the patient's recovery would have been hastened and the eleven days, intervening between the first operation and the enterostomy, all during which time his condition was critical, would not have occurred to retard his convalescence. Cases of this type should always receive the benefits of a primary enterostomy. The long delay in closing the enterostomy wound in this case, was due to the fact, that the bowel distal to the enterostomy reacted very sluggishly. In spite of daily enemata, fecal impactions would recur. It was twenty-six days before the daily enemata were effectual in controlling these fecal impactions. Before closing an enterostomy wound, it is always necessary to procure fair bowel movements at least by enemata. If this point is neglected, a return of the fecal fistula, due to the accumulation of gases which will surely occur, is almost certain.

CASE II. Mr. J. L. Age 21, entered hospital with large appendiceal abscess of three weeks duration.

Operation.—Incision and drainage under ether anesthesia.

Post-Operative.—Subsequent progress of case uneventful for fifteen days, when he again complained of considerable pain. This continued until the nineteenth day when a secondary abscess was diagnosed and drained. On the ninth day following the

second operation, nausea and vomiting set in. Vomiting continued with intervals of considerable belching of gas. Meteorism and obstinate constipation also appeared. Gastric lavage and enemata were employed with only temporary relief. On the eleventh day after draining the secondary abscess (two days after the onset of the ileus symptoms), an enterostomy was considered as the only available means of checking the vomiting and reducing the meteorism. This was done under local anesthesia on the eleventh day after draining the secondary abscess. From this time on vomiting ceased, meteorism disappeared and an appetite for food returned. Ten days later under local anesthesia an attempt was made to close enterostomy wound. This proved only partially successful. After the lapse of two weeks under gas anesthesia closure of the enterostomy wound was successfully performed and the patient left the hospital seven days later.

Comment.—It is now two years since this patient left hospital and he is at the present time enjoying excellent health.

CASE III. Mr. W., age 17, entered hospital four days after beginning of an attack of acute gangrenous appendicitis.

Operation.—Appendectomy and drainage.

Post-Operative.—Three days after operation, nausea and vomiting with meteorism appeared. His temperature rose suddenly and he complained of localized pain in right iliac region. On the fourth day an abscess was diagnosed and successfully drained. Meteorism, nausea and vomiting, however, continued in spite of repeated stomach lavage. His skin was cold and clammy, his expression was drawn and pinched, in fact the whole clinical picture gave the impression of an impending dissolution. On the morning of the fifth day, an enterostomy was performed under local anesthesia. During the next twenty-four hours his condition remained serious, vomiting and meteorism diminished but his skin remained cold and clammy. On about the eighth day he began to improve, he retained fluids and soon ate solid foods without distress. Thirty days after the enterostomy was performed, closure was attempted but a week later fecal discharge again appeared in the wound. This fecal fistula was left unmolested for another two weeks when it was closed through a fresh incision. A new opening was made, the bowel was freed from its parietal attachment, a small piece resected and an end to end anastomosis made. Recovery from this time was uneventful.

The lessons thus learned have taught us to anticipate post-operative ileus and during the past year we have profited thereby, especially in cases of appendicitis complicated by peritonitis in which the cardinal symptoms of ileus, vomiting, meteorism and coprostatics, were prominent. The appendix was removed, if easily accessible; the peritoneum was drained through the appendix incision and through suprapubic and left iliac stab wounds. In addition a distended loop of ileum was stitched to the edges of the peritoneum at the site of the appendix

incision, opened and drained in the manner described for post-operative ileus. The results were surprising. Patients who were delirious, practically moribund and in whom recovery seemed hopeless, survived the operation, rallied and recovered.

In advanced cases, the procedure certainly seems logical, and we heartily recommend it. The surgeon, who unfortunately comes in contact with cases of this nature, can only effect a cure by resorting to primary enterostomy.

The following two cases are illustrative:

CASE IV. Mrs. E. P., age 60, entered the hospital four days after the onset of sudden pain, nausea and vomiting. Nausea and vomiting was followed by distention and coprostasis and persisted until entering hospital. On entering hospital she was still vomiting; abdomen markedly distended, symmetrical distention. Temperature 97, pulse 110, respiratory 28; typical drawn, pinched expression of peritonitis.

Operation.—Under gas anesthesia. A band of adhesion was found kinking bowel about one foot from cecum. This was freed and on account of the paralysis present an ileostomy was performed at the same time.

Post-Operative.—During the first and second day her condition remained critical. During this time drainage of the intestinal contents through the ileostomy wound was scanty. On the third day, the discharge became copious and with it, her condition began to improve and continued to do so. The ileostomy wound was closed on the twenty-fifth day. Further recovery was uneventful. She left the hospital on the forty-fourth day, nineteen days after the ileostomy wound was closed.

CASE V. Master E. P., age 14, entered hospital four days after acute onset of pain, nausea and vomiting. During the four days previous to entering hospital had marked constipation. Upon entering hospital his condition was extreme. Temperature 99, pulse 120 and thready, respirations 30. He was delirious, abdomen enormously distended and still vomiting. His expression was listless and cyanosis was marked.

Operation.—Under gas anesthesia, a gangrenous appendix was removed, stab drainage instituted and a presenting loop of bowel opened and drained.

Post-Operative.—Even the first day his general condition was markedly changed, for the better. Vomiting ceased, meteorism disappeared and a gradual return of consciousness was noticeable. On the tenth day he began to decline and thereafter, in spite of anything that could be done, he grew weaker and weaker and died on the twenty-fourth day.

This case even with a fatal termination, shows the value of enterostomy. As a result of it, the patient rallied from an unconscious and moribund state, continued to do so for ten days and subsequently from want of nourishment finally succumbed from sheer exhaustion. Unfortunately, the enterostomy was performed high up, so that any nourishment he would imbibe, was rapidly discharged through the wound. Absorption, on account of the small area of intestinal mucosa the food would

come in contact with, was insufficient to nourish the tissues. This life in all probability would have been saved, had the enterostomy been performed near the caecum.

CONCLUSIONS.

1. The critical condition of a patient suffering with ileus is largely due to a loss of body fluids.

2. Enterostomy, for post-operative ileus that will not quickly yield to stomach lavage and enemata is a life saving measure. It is really nature's method of effecting a cure.

3. Enterostomy, in advanced cases of peritonitis where abdominal distension is marked, is a logical procedure and deserves universal adoption.

The material used in the preparation of this paper has been taken from the service of Dr. McLean and from the writer's private practice. The writer wishes to thank Dr. McLean for same.

THE EARLY DIAGNOSIS IN PULMONARY TUBERCULOSIS.*

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Records recently collected show an annual death rate from tuberculosis of 1,100,000 among the civilized countries of the world, which means about 3,000 daily. In the United States it is estimated that from 120,000 to 150,000 persons die yearly from this disease. These facts are appalling, but we must go further and take into consideration those, who through the ravages of this malady are incapable of wage earning, thereby in many cases rendering themselves and others destitute. During the past few years an energetic and successful crusade has been waged against the disease, in which many methods have been introduced for the checking and reduction of the same. Among others we mention better sanitary conditions, especially in the crowded parts of the cities, the regulation of the hygienic conditions in the factories, the inspection of school children with the establishment of open air class rooms, the erection of sanatoriums for the treatment of early and moderately advanced cases, and the establishment of hospitals for the care and isolation of advanced cases. We must always remember that many societies and leagues have done much through the agency of teachers, lecturers and moving picture films to acquaint the public with many of the important facts concerning the prophylaxis and treatment of tuberculosis.

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Frederick Hoffman has collected a great deal of accurate and valuable information regarding the prevalence of the disease and the death rate from the same. He estimated that for every death due to tuberculosis ten living persons have it in some form. That would mean that there are about one and one-half million tuberculous cases in this country at the present time. When we take into consideration the above fact, we naturally ask ourselves in what further way can we help to prevent the disease and assist those already affected. It is true we cannot save all of them. Many of the cases are too far advanced, the tissues are broken down, the functions of the affected organs are interfered with, and the general resistance of the body is overcome as the result of the absorption of toxins caused by the long standing infection. If we make a careful review of the yearly reports of many of the institutions where pulmonary tuberculosis is treated, we find that by far the greater number of recoveries occur in the early stages of the disease. Therefore, taking all the above facts into consideration, we can readily see that an early diagnosis is essential, and that the members of the medical profession should do all in their power to become proficient in the recognition of the early signs of the disease. Not only is it important to discover the early manifestations of the trouble, but we must also recognize latent conditions of, perhaps, long standing which under favorable conditions, may at any time become active. I shall attempt to discuss some of the more essential points in the early recognition of pulmonary tuberculosis.

In the diagnosis of this disease we are prone to wait for such symptoms as purulent expectoration containing tubercle bacilli. This is always a sign that destructive changes are going on and we are dealing with caseation and softening. Already the case has progressed into that stage which means months and perhaps years of treatment to overcome, and which in many instances has gone too far. The question is naturally asked, how are we to secure the patient before the subjective symptoms appear; for he will not consult us before he notices that there is something wrong. This is often too true, but we can save many cases by making it a rule to examine carefully every patient consulting us, keeping in mind the fact that some authors claim that one person out of every twelve probably has active tuberculosis. We should always be on our guard in dealing with such cases as pneumonia, (especially when recovery is slow), bronchitis, malaria, typhoid, asthma, catarrhal

conditions of the nose and throat, enlarged glands, fistulano, peritonitis, pleurisy, ischio-rectal abscesses, and slow convalescence from any disease. We must also be watchful in cases of abscess of the ear, hoarseness, and of women after frequent pregnancies.

Under no circumstances should we allow our long acquaintance with our patients to influence our judgment in arriving at a logical conclusion as regards a diagnosis. We must not be deceived by negative family history, healthy parents, ideal home environment, or good personal habits, but must remember that one out of five cases who present themselves for treatment gives such a history. In questioning the patient regarding his personal history, certain points must be kept in mind always, such as inquiry into periods of worry, prolonged illnesses, frequent attacks of colds, tendency to catarrhal conditions and cough, and gradual loss of strength. Inquire carefully into the family history, as to whether any members died of tuberculosis, congestion of the lungs, pleurisy, bronchitis, malaria, typhoid, or of any other illness of long duration. Inquire into his present and past condition. Ascertain if he ever had any cough, expectoration, or any infectious disease, or if he ever has spit blood. Question him also regarding his remote family history and finally his own childhood environment regarding associations with sick and delicate relatives and friends. Find out if he roomed alone and take into consideration the financial condition of his parents during his early life. In many instances, from the above interrogation we can trace a likely tuberculous infection which will materially aid us in pursuing further investigation.

In the examination of the patient let us consider some of the following points:

Occupation.—Metal workers have long been mentioned in the writings as being susceptible to this disease, but we must also take into consideration all those who work under overcrowded conditions, who get little fresh air and less sunshine, and who are constantly being exposed to changes in temperature.

General Condition.—Note the general physical make up, the nutrition of the skin and the physical expression. Three typical types of patients are often to be found; first, the pink transparent complexion, generally well nourished but giving a bad family history of infection; second, the tall angular under-nourished class, often spoken of as wiry; many of these cases are mouth breathers, and often a careful examination will reveal early manifestation of pulmonary trouble; third, the type which exhibits a healthy complexion, but often spoken of, especially if a male, as having a girl's complexion. A rosy pink skin is often significant of lack of

resistance and generally gives the history of a puny sickly individual during childhood.

Glands.—Always make a thorough examination for enlarged cervical and axillary glands. The former are nearly always involved, the latter not so frequently. It is important to notice the position of these glands. Tuberculous glands are generally found in the angle between the clavicle and upper border of the scapula. By standing behind the patient and pressing down with the first three fingers in a rotary manner one can often locate enlargements of the glandular tissue which otherwise will be overlooked. Peritonsillar adenitis has not so much significance as that found in the above mentioned area. Another important place in which to look for tuberculous glands is behind and below the posterior border of the clavicle. In thin subjects, or those with deep supra clavicular fossae, these can be demonstrated easily. Often the extent of glandular enlargement corresponds to the diseased condition in the lungs. For example, on finding enlargement of the right cervical glands we can frequently find the more decided lesion in the corresponding lung. In all cases of enlarged cervical and axillary glands, when we cannot determine any pulmonary trouble, a Pirquet or Moro test should be made. This is especially the case in children with a history of exposure to infection.

Cough.—Inquire carefully if the patient has, or ever has had any cough. The cough is often one of the earliest symptoms that attracts the patient's attention. It is important to question him carefully for the purpose of ascertaining if he ever had any long periods of slight cough, especially following measles, typhoid, or la grippe. There are many kinds of cough. In the early cases we often get a slight, catchy, hacking cough which the patient generally describes as dry. It may be accompanied with a small amount of sputum, especially noticed in the morning and giving little or no annoyance. In this case the patient will often tell you that he has contracted a cold which so far he has been unable to overcome. Another typical cough in pulmonary disease is the hard paroxysmal type which comes on at any time and is exaggerated and stimulated by exercise, exertion, sudden changes of temperature, or excitement; also by animated conversations, or arguments, especially if held in the open air. This type is generally characteristic of congestion, infiltration or destruction of a large area of pulmonary tissue, and anything that increases the flow of blood to the part causes irritation and cough. This is a type we often meet and frequently the paroxysms are so severe as to cause vomiting, and the patient consults the physician thinking he is suffering from what he calls stomach cough. We can readily understand why rest in such cases is absolutely essential, as every attack tears the fine films of lung tissue which may be in the act of healing. It is therefore of the utmost importance to keep such patients free from excitement and sudden changes of temperature, so as to prevent any irritation of the diseased area and thereby promote healing. Finally we must consider the effective type of cough, the loose, moist cough which is often indicative of cavity formation and destructive pulmonary changes. It is generally, though not necessarily, associated with emaciation and the typical symptoms of advanced pulmonary

tuberculosis. Any case giving a history of cough lasting over a prolonged period should be carefully investigated. Question the patient carefully regarding susceptibility to colds which drag on, especially in the summer time. The latter is always suggestive.

Fever.—It is important to carefully determine the temperature findings of all patients of whom we are suspicious of tuberculous infection. A persistent evening temperature of 99.2 or higher, without apparent cause is always to be considered with suspicion. It will not suffice to take the temperature two or three times in the office, but it should be taken three times a day for at least a week, the thermometer being left in the mouth for five minutes each time. In this way we can often detect a slight afternoon fever and a corresponding subnormal morning temperature which would not be revealed by the ordinary method. In this connection we should inquire whether the patient sleeps soundly. Frequently a slight elevation of temperature is the cause of restlessness and often of night sweats. If we find a slight afternoon fever it is important to note the influence that exercise will have on it. Years ago Renzoltz discovered that exercise nearly always increased the temperature in tuberculous subjects. This is true to a very limited degree in healthy subjects, but frequently in tuberculous cases exercise will increase the temperature from one-half to two or three degrees. Hot, poorly ventilated rooms, excitement, or railway journeys will often cause the same result.

Pulse.—From the pulse we can often determine important information. Frequently the only manifestation of impending active trouble is a persistent rapid pulse. If no other cause can be found to account for this condition, we should always keep in mind this fact. If a careful temperature record is kept we can generally find an evening elevation associated with this condition. In treatment the pulse is one of the most important factors.

Loss of Weight.—This symptom has been mentioned by the earliest writers on pulmonary tuberculosis, but mistakes have been made on account of the fact that the patient was not below his normal weight. Extensive pulmonary lesions can exist without loss of weight, but the weight of most of these subjects, if compared carefully with insurance requirements, will be found to be from ten to twenty pounds deficient. Therefore a very important point in early diagnosis is to note carefully in these cases the present weight as compared with the standard. The records of most institutions where tuberculosis is treated show that usual gain in weight which often exceeds any previous record only brings the patient up to standard requirements, taking into consideration height, age and sex. As the disease advances, or becomes active, we get the liberation of toxins and albumens into the blood stream, the result of bacteria activity and tissue destruction. This causes a gradual or decided loss of weight according to the extent of absorption.

Haemoptosis.—Often the patient has to consult the physician on account of this symptom. It may be the only sign of any pulmonary trouble. Often he looks the picture of health. Some writers of earlier date make mention of a more favorable prognosis in cases of hemorrhage. It is possible in the light of modern studies of immunity that the

bathing of the tissues in blood may have some healing effect; but when we take into consideration the increased danger of aspiration and infection of surrounding pulmonary tissue, I think there must be some other reason for this. Personally I am inclined to believe that the reason for hemorrhagic cases often doing so well is on account of an early diagnosis, the patient consulting the physician on account of bleeding. This symptom always impresses the patient that something is wrong and he immediately seeks advice. We must always try to discover the source of the bleeding, examining carefully the gums and the teeth. Haemoptosis may come from this source but only in very small amount. Large hemorrhages seldom come from any condition of the larynx. Blood from the nasal pharynx is generally mixed with mucus and associated with epistaxis. Note carefully if the bleeding occurs with cough. A morning cough accompanied by slight amount of colored sputum, especially if recurring for a few days, is generally always significant of pulmonary tuberculosis. A decided hemorrhage from the lung is nearly always followed for a few days by blood stained sputum. Streaked sputum generally comes from the bronchus while frothy sputum mixed with pus and blood generally comes from the lungs. A thorough and repeated examination of this sputum will often reveal tubercle bacilli. Vicarious menstruation has yet to be proved to occur without pathological changes and when blood spitting occurs at this time a careful examination of the lungs and sputum should be made. In connection with haemoptosis we should exclude other conditions such as luetic infection, cardiac disease, carcinoma, sarcoma, bronchaestasis and circulatory disturbance.

Pleurisy.—Pleurisy is generally a symptom, not a disease, and is generally a sign of tuberculosis. Pain in the chest is often the sign of pulmonary trouble. A careful examination of the chest may reveal little or nothing, but this is generally the exception. The seat of the pleurisy is not always an indication of underlying disease in the lung. If we find a pleuritic condition at the base, an examination of the apex will often reveal a tuberculous lesion. We must remember that the ducts enter the pulmonary substance at least one and one-half inches and secrete their contents into the pleural tract, thereby lubricating the surfaces. In this way toxic substances may be poured into the upper part of the pleural cavity and find their way by gravitation to the base, setting up on the lateral area an inflammation due to chemical irritation or bacterial activity. A limited area of pulmonary disease when near the surface may cause a pain due to inflammatory involvement of the pleuritic surfaces. Sensitive pleura over diseased area will often become inflamed and cause pain due to sudden changes in weather, damp days, exposure to cold winds, and excessive exercise.

Let us now consider some of the essential points in the physical examination. If the patient has huskiness or hoarseness of voice, always examine the larynx. In fact it is a good rule to include a laryngeal inspection in the routine examination. Tuberculosis of the larynx is far more prevalent than is usually

supposed and apart from the huskiness of voice, seldom gives any symptoms, until decided changes in the tissues have taken place. Look carefully for interartynoid swelling, thickening of the artryroids, congestion of the true cords and examine the epiglottis for the typical turban shape so characteristic. Tuberculous infection of the larynx is nearly always secondary and generally on a careful chest examination of these cases we can discover a pulmonary lesion. Next note carefully the presence of cervical and axillary adenitis. Note their condition, whether hard or shot-like and nodular. It is important, as above mentioned, to note their position.

This brings us to the examination of the chest. It is the height of folly to attempt to examine a chest unless the patient is stripped to the waist, so that the lowest area of lung excursion can be determined. The next essential condition is a quiet room with abundance of light. It is impossible to make an accurate examination if one is being constantly interrupted by external sounds. A careful inspection of the chest will often reveal a world of information regarding internal conditions. Lagging or deficient expansion of the affected parts may be noted. General expansion of the chest reveals little information, as many cases with cavity formation are capable of extensive expansion. Supra and infraclavicular depressions which are not obliterated on deep inspiration may be observed. Often a flattened area over the affected part may be seen. During inspiration we sometimes see a bulging in the intercostal spaces. This is generally due to underlying cavity formation. Pleural adhesions can often be detected by such signs or retraction of the interspaces on inspiration, a spasm or quivering of the same area on coughing or the presence of dilated peripheral veins. The apex beat should be carefully marked as in many cases the heart is pulled toward the affected side. By careful observation of the base of each lung we can often distinguish limited movements of the thorax due to bound down pleural surfaces and irregularities in the diaphragm movements. Frequently the subclavicular area is one of the first places where alterations in movement appear. Inspection of this area is best obtained by standing behind the patient and viewing the chest from above downwards. In some cases a better view is obtained by a lateral observation. In the more advanced condition the ribs on inspiration seem to have lost their elasticity and the chest frame-work rises as a unit.

Vocal fremitus is sometimes not evident in

the incipient stage, but is generally present when any decided change takes place in the underlying tissues. It is an important guide to us when used in conjunction with inspection and auscultation. In the early cases dullness is generally very slight if not absent. We can readily understand why, as the tissues have not yet reached the stage of infiltration whereby resistance can be demonstrated. In percussing the chest it is necessary to have the patient in the correct position, sitting erect, hands on the knees and shoulders slightly bent forward. We must use light percussion in all cases and in this way many superficial areas can be discovered which on deep percussion are not revealed. Sometimes we get a higher pitched percussion note over the affected apex on account of the emphysematous changes. To obviate any mistake in this matter the measuring of the height of the apices can often help us. Posteriorly it is important to mark the lung excursion on each side and compare findings.

In using the stethoscope in this connection, our greatest mistake is to search for adventitious sounds only. Many of us consider the findings of such the only reliable evidence of trouble. If we study the pathology of pulmonary tuberculosis we can readily understand that rales and the appearance of moisture are by no means the first sign, but are evidence of escape of fluid into the air cells, the destruction of tissue in mass or inflamed pleuritic surfaces. Therefore the most important evidence that we should take in consideration is any alteration in the behavior of the breath sounds on account of the fact that, as a general thing, any change in the pulmonary tissue interferes with the passage of air through the channels.

Prolonged high pitched expiration is frequently found over the right subclavicular area in health. If we find this associated with decidedly harsh inspiration it is suggestive. Note carefully the character of the breath sounds whether prolonged, high pitched, harsh, rough or interrupted, whether bronchial in character or exaggerated. Reinforce this investigation with whispered voice sounds and finally the character of rales, if present. Look for fine crepitant rales at the end of inspiration. In this condition be careful to instruct the patient not to take a long breath, as often these adventitious sounds may disappear on deep inspiration. Therefore examine the entire chest, at first under ordinary conditions and then again as the patient is taking deep inhalations through the mouth. If we can detect rales or crepita-

tions, note if they seem close to stethoscope or more deeply seated. The former is generally in the pleura. An old custom in cases of dullness over one apex over which no signs of moisture could be obtained, was to give the patient a subcutaneous dose of tuberculin and listen for a focal reaction. This method is not so extensively used and should not be except by those who have had considerable experience with this preparation. In auscultation of the chest prolonged high pitched expiration is often the first sign of tuberculous condition. Whispered voice sounds should be listened for over the entire chest. In this way deep seated trouble can be detected. Weakened and distant breath sounds are always significant and if we can find coarse rales without deep breathing the disease is generally well advanced. Any secretion or discharge from the throat respiratory passages should always be carefully and repeatedly examined for tubercle bacilli. The patient will often deny having any cough or expectoration. If asked if he clears his throat in the morning he will generally admit it, and if given a receptacle in which to expectorate he will generally return with some slimy, tenacious or purulent mixture in same. We must remember that the lungs are large organs, that an extensive amount of disease may exist without any discharge from them finding its way into the bronchus. Therefore a negative examination is of little diagnostic value in pulmonary tuberculosis. The number of bacilli found does not necessarily mean much regarding extent of disease. A large number of bacilli may come from a very small caseous area and a scattered few from the walls of a deep seated secreting cavity. The appearance of tubercle bacilli in the sputum always means destructive change in the pulmonary tissue. The cells are destroyed, necrosis has set in, and the bacilli are set free by the disintegration of disease tissue. As regards characteristic sputum it is hard to describe. A careful analysis will often reveal the infection in the most unlikely looking sample; therefore whenever expectoration can be secured, it should be examined, regardless of where the patient thinks it originates. Our object should be to recognize any tuberculous condition in the chest before the appearance of tubercle bacilli, or even cough and expectoration. Many will say, "what is the use of recognizing such conditions, the majority of which never produced symptoms." It is our duty to recognize pathological changes in the lungs whether they are active or latent. In the former

immediate steps can be taken to stop the progress of the disease and eventually heal the tissue. If the later condition is revealed, we can guard against any future exacerbation of the trouble by instructing our patient in the way he should live to continue his present state of health. If we cannot recognize these conditions, the majority of which never cause active trouble, we are bound to overlook many which are active; and if all cases could be recognized early, it should only be a reasonably short time before we could have the disease of centuries under control.

The greatest acquisition to our present methods in discovering pathological changes in the lungs is the use of the X-Ray. The stereoscopic skiagraph has given us a great help in discovering early and latent conditions, but again we must have with it a capable and experienced radiographer to interpret the findings. Many make the remark that this method reveals conditions which cannot be found by physical examination, and therefore cannot be of any great consequence. I still maintain that the stethoscope when used by one who has had experience in this method can reveal the same conditions, and that these methods, the stereoscopic plates and physical examination combined, give us the best methods possible at our command for the discovery of altered conditions in the thorax. As time advances we will depend almost entirely on the skiagraph for chest examinations. In considering the use of fluoroscope regarding the diagnosis of pulmonary tuberculosis Roentgenologists do not claim that, by its use they can always determine lesions. But in many cases its use reveals a great deal of valuable information. One very important point in the use of this method is that the actual movements of the pulmonary tissue, heart and diaphragm can be carefully observed and studied.

We must combine all available means at our disposal for collecting evidence and undoubtedly the best combination is a careful physical examination, properly charted and checked up by the use of the skiagraph. For a long time I have claimed that we are letting slip through our fingers many cases of incipient, latent and moderately advanced conditions of pulmonary tuberculosis; but it is difficult to make the profession realize that significance should always be attached to many of the above findings. No better method, when in doubt, can be adopted than the use of the skiagraph. We frequently hear the remark that the percutaneous tests of Pirquet and Moro are not reliable. Like many

other tests they are not reliable unless in the hands of those having had some experience in the interpretation of the findings. From these tests we can learn a great deal. If a positive is obtained, we know that specific antibodies must exist in the organism. Whether these are the result of recent or old conditions is hard to decide. A negative result often comes in advanced cases when the general metabolism is so deranged and exhausted as to prevent the cells from reacting. Only recently a case came under observation where four consecutive Pirquet tests failed to give a positive reaction. The physician went no further in his investigation but took for granted that no tubercle bacillus existed but further observation in this case revealed an advanced case of pulmonary tuberculosis. When a positive Pirquet or Moro is obtained we can feel satisfied that we are dealing with a tuberculous infection and a careful and painstaking examination along the lines above mentioned will reveal in nearly every case, the site of the disease.

As regards the intensity of the reaction, all cases showing the same will frequently show acute or recent trouble. This is only based on my own observations of many cases. We should always watch for delayed reactions, as a percutaneous test many react as late as seventy-two hours. Some writers have claimed that most adults will react to these tests but that is certainly not the case as I have observed from personal experience. If a person has overcome his infection and remains well for a long period or time he may give a negative percutaneous reaction due to the fact that his tissues have lost their sensitiveness to the specific toxine, but when we get a decidedly positive reaction we are, dealing with an infection, either in its incipient, arrested, or moderately advanced state, and it is then our duty to leave no stone unturned in our effort to ascertain what particular phase of the disease exists.

Krumhaar and Musser of Philadelphia made very interesting investigations recently in which they arrived at the following conclusions regarding percutaneous tuberculin tests:

1. The prevalent opinion that positive reactions in adults are of little value is erroneous.
2. The constantly positive reaction in all early and moderately advanced cases is strong indication of the specificity of the reaction.
3. Negative reaction in 90 per cent. of advanced cases indicates that the chronic infection has used up all the specific antibodies.
4. The test may be repeated in the same patient with the same result and only in very rare instances does a repetition show a different result.

In seventy-six unselected non-tuberculous cases only two failed to give negative results to the Moro test.

In the sero-diagnosis of tuberculosis we have a branch of the work which has received very little attention, but it is interesting to note that a number of investigations have shown the existence of specific antibodies in nearly all tuberculous cases examined.

CONCLUSIONS.

1. In consideration of the prevalence of the disease it is essential that the medical profession should use all available means at their disposal to recognize it.

2. The importance of distinguishing between active and latent conditions.

3. The necessity of an early diagnosis as regards consequent treatment.

4. That valuable and accurate information can be obtained by the use of percutaneous tests.

5. The value of a careful physical examination combined with the use of the stereoscope and stereoscopic plates.

Battle Creek Sanitarium.

EVIDENCES OF COLITIS AND INTESTINAL TOXEMIA IN CHRONIC DISEASES, AND ITS TREATMENT.

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Enormous numbers of individuals are suffering from many chronic maladies and in the large proportion of these, toxins of various kinds are important factors in their etiology. During the last few years much has been written about certain groups of symptoms under the caption alimentary of intestinal toxemia and auto-intoxication. These terms are uniformly bad because a poisoning is usually designated by the specific poison, but here we refer to the supposed source of its production and avenue of entrance. In considering the etiological factors of disease a toxin of some kind takes a prominent place, but the origin is variable. In acute diseases we are looking for a specific infection. In chronic diseases toxins of obscure nature are the rule. In acute diseases modern medicine has accomplished much in decreasing the frequency of many acute infections, and also the mortality. It has become more a matter of prevention than of cure. In the present medical era we are doing every-

thing to develop preventive medicine. The splendid work done by medical scientists for the prevention of acute disease has impressed the world with its success and people are waiting and anxious to apply the same principles in coping with chronic diseases, and are looking to us as a profession to tell them what to do to postpone the appearance of such common maladies as chronic nephritis, arteriosclerosis, neurasthenia and similar conditions.

No emphasis need be made concerning the frequency of chronic diseases among present day people, as every practitioner has his quota. We usually please to call these patients neurasthenics, or perhaps they are chronic sufferers from bilious attacks, migraine, nervous dyspepsia and similar conditions. These have their ups and down and we make spasmodic attempts to relieve them, which succeed for variable periods of time, but the probability is that they relapse. They may come again for advice or seek the osteopath or chiropractor, or depend on such remedies as are advertised to cure their symptoms. In addition to this we get many chronic sufferers who do not worry us, but who gradually develop such maladies as chronic nephritis, arteriosclerosis, cirrhosis of the liver or the various anemias, diseases in which we are at a loss to know what is the primary cause.

My experience with this type of cases convinces me that a toxemia of some kind must be a prominent, if not the primary, factor in many of them. A deficient elimination seemed evident, which meant a retention of poisons to disturb the functions of susceptible organs. Thorough elimination nearly always alleviated many of the symptoms. It became apparent that the most defective point of elimination was from the intestines and to assure myself of this I began to look for all the evidences possible of a toxemia of intestinal origin.

Before taking up these evidences in detail I do not wish to convey the idea that a toxemia of intestinal origin is the cause of all the chronic diseases referred to, but I think I can show that it is a most potent factor in making these patients miserable, and that when treated systematically and vigorously, great relief is experienced. We must bear in mind that in the neurasthenic and in the sufferer from migraine there is an hereditary trend that makes them susceptible to the symptoms as predominant in these conditions, but they are undoubtedly aggravated by an intestinal toxemia. These cases are frequently told that they are suffering with an auto-intoxication, but if we go more into

detail and explain what it means, and the probable source of the intoxication a better co-operation of the patient is assured.

In studying the history of these patients one cannot help but be impressed with the large per cent. that give a history of constipation, dat-



Fig. 1. A normal colon injected with bismuth. Note the width of the iliac and pelvic colon, which, although narrower than that of the cecum and ascending colon, is still wide. (Case).

ing over a period of years before they began to think there was anything seriously wrong. When their malady is well established they are very frequently resorting to cathartics or enemas because experience has taught them that active elimination by way of the bowels gives them greatest relief. Many of them have lost the normal impulse calling for an evacuation even with the rectum packed full of feces, a condition brought about by neglect to respond to the impulse and by persistent sedentary habits. This impulse has its origin in the rectum and manifests itself when fecal matter is forced from the sigmoid. According to physiologists and rectal specialists, the rectum is empty except just prior to an evacuation of the bowels. When this impulse is lost, irregularity of the bowels becomes the rule and incomplete evacuations result, and eventually a chronic colitis. On the other hand, we must admit there are individuals who endure constipation to an extreme degree, even going four or five days or a week without a bowel movement, with no apparent discomfort. If intestinal stasis is an important factor in causing toxemia, then in these cases the poison is either not formed or they are immune to it.

In examining the patient the upper alimentary must not be forgotten, as pyorrhea and

cavities in teeth, or diseased tonsils, are often the source of intense toxemias. Conditions here are often responsible for the coated tongue and foul breath so often found.

Physical examination of the abdomen frequently reveals a tender colon from cecum to sigmoid, hepatic tenderness or a swollen liver. Others may have tender spots over lower intercostal spaces that have been described by Von Norden in colitis. Proctoscopic examination is very important in these cases, as it gives us valuable information concerning the function of the lower bowel as well as the condition of the mucous membrane. The examination should be made soon after the patient has had his usual stool. In several hundred cases having had proctoscopic examination by my colleague, Dr. W. F. Martin, it has been unusual to get a report of a clean rectum and sigmoid. I frequently send in a patient immediately after his usual morning stool, described by him as satisfactory, and get a report that the rectum is packed with foul smelling, mushy feces, or in the more moderate cases, residual feces will be found in the region of the sigmoid with the walls of the bowel covered with a thick tenacious mucous, mixed with fecal matter. The mucous mem-



Fig. 2. Bismuth injections of the colon showing moderate spasticity of the iliac and pelvic portion, moderate ileocecal valve incompetency, and a Lane's kink of the ileum. Colon filled by enema. (Case).

brane is almost invariably congested and often more or less eroded even to the extent of ulceration. The colon is found to be spastic in nearly every case, even to such a degree that a proctoscope of moderate size passes with difficulty.

This spastic condition of the colon has frequently been confirmed by X-Ray examinations

by Dr. J. T. Case and usually occupies the greater part of the left half of the colon. Where the condition has been of long standing the cecum is usually more or less dilated and the ileocecal valve often found to be incompetent. In addition to the spasticity there is often X-Ray evidence of adhesions in the region of the cecum, hepatic flexure or pelvic colon, which

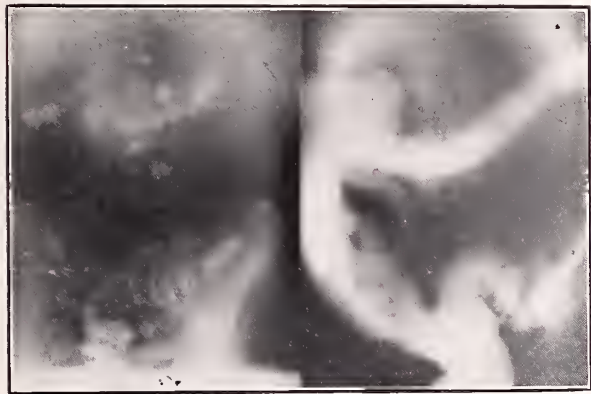


Fig. 3. A comparison of the appearance of the spastic colon following the meal and following the bismuth injection. Note the incompetency of the ileocecal valve. (Case).

may interfere more or less in an organic way with the function of the bowel.

As to the cause of these adhesions there are various opinions. Eastman (1) advances evidence to show that they are the result of chronic intestinal toxemia. In experiments on rabbits ligating the rectum for variable periods of time, more or less extensive pericolic adhesions formed, most frequently in the region of the cecum, hepatic or splenic flexure. He refers to such writers as Virchow, Gerster and Pilcher as having expressed the opinion that plastic adhesions may form as a result of a toxemia originating within the colon, and in view of this it may not be illogical to assume that such adhesions may result from stasis and chronic colitis. Bassler (2) describes the *bacillus adhaesiformis*, which he believes a factor in the production of intestinal adhesions. Adami (3) believes that bacteria may easily pass from intestine to peritoneal cavity and produce a low grade inflammation which may result in adhesions. These adhesions about the colon too frequently are the source of trouble, either by fixation or constriction of intestine, interfering with the mechanical function of the bowel.

Turning from the various physical disturbances in these cases, further evidence of toxemia was sought in the urine and the feces. In the urine a search was made for indican and indolacetic acid in each case. Physiologists are fairly well agreed that indican originates in the indol produced by the intestine from the trypt-

tophan contained in the protein of the food; the change being affected by the influence of the micro-organisms of putrefaction. The amount of conjugate sulphate in the urine is also an index of the amount of putrefaction occurring in the bowel (4). Indolacetic acid belongs in the same class as indican and I consider it very important to search for this in the urine, because in many cases it is found in the absence of indican, or both may be present in the same specimen. In order to determine the relative amount of indican in the urine the Folin scale is of great value and gives us a definite scale for comparing the intensity of the reaction, while the patient is under observation.

Fecal examinations were made in all cases and the odor, reaction, amount of ammonia and indol, the presence of mucous in its various forms, and the amount of carbohydrate or cellulose in the stool, were ascertained. The intensity of the putrid odor is of value, especially when facilities for more extensive examinations are not at hand. Most stools are more or less alkaline in reaction, but when alkalinity is high then one can be almost certain of colitis with residual feces and mucous. The amount of ammonia present in the stool also indicates the extent of putrefactive processes, but is perhaps



Fig. 4. A more marked case of ileocecal valve incompetency associated with adhesions of the pelvic colon with stasis in the right half of the colon, especially in the cecum. (Case).

a less constant factor than the alkalinity. The amount of ammonia is estimated by the Malfatti method. The presence of cellulose in the stool is of great importance, and when found in small quantities, it is reasonable evidence that putrefactive processes are marked, and as the quan-

tity of cellulose increases putrefactive products seem to diminish, as will be seen from the chart, compiled by our Dr. Glass.

The presence of mucous in the stool I consider of great importance and everyone should be able to recognize it on even a superficial examination. When present in the form of strings it is reasonably certain that a colitis of rather severe type, with a congested mucous membrane and spastic colon containing residual feces in variable quantities will be found. In order to determine the general frequency of these evidences of intestinal toxemia, I took 100 cases that have been treated during the last fifteen months, in 70 per cent. of which a diagnosis of neurasthenia was justified. Indican or indolacetic acid, or both, were found in 92 per cent., leaving only 8 per cent. in which no evidence of intestinal putrefaction was found in the urine. Examination of the stools showed 98 per cent. to be alkaline; 73 per cent. to contain mucous in some form.

TREATMENT.

In taking up the treatment of these conditions found in so many different types of chronic



Fig. 5. Moderately spastic colon shown following the meal. The spasticity is confined to the iliac and pelvic portions. This plate was made about twenty-six hours following the bismuth meal. (Case).

permanent. The treatment may be divided into general, dietetic and local measures.

The general treatment consists of looking after the condition of the patient from the standpoint of hygiene, the correction of habits that may be a disturbing factor in undermining the general health, and to see that there is a proper ratio between rest and exercise, with an abundance of outdoor life. Anxiety and worry and any source of mental irritation should be minimized to the least possible degree; in fact everything should be done to put the patient in

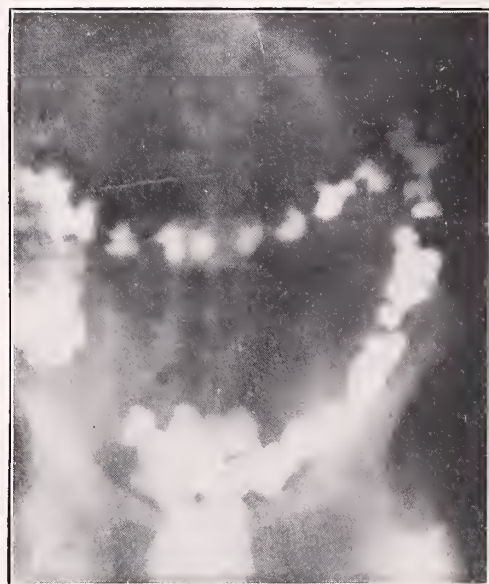


Fig. 6. Another marked case of spasticity involving almost the entire colon. Another gallstone shown in this plate. (Case).

the best frame of mind possible. The condition of the circulation must be considered, as the majority of these cases suffer more or less with cold extremities, due to peripheral spasm, which means a splanchnic congestion, producing marked disturbance in the function of the intestines. Many patients will complain of cold extremities in hot weather, even wearing heavy clothing to prevent the sensation of chilliness. The best measures we have at our disposal to combat this condition are various hydrotherapeutic procedures, varying in intensity according to the patient's ability to react. The procedure may vary from the simple cold water friction to the Scotch douche and in order to insure a good reaction, the use of hot applications to the abdomen, or perhaps a warm sitz bath, should precede the cold application. This procedure serves to relieve internal congestion and also tends to relax the spasm of the colon, and in addition is of decided value for its tonic effect on the nervous system. Massage is an excel-

cases, I shall only attempt to call attention to some of the most important measures to relieve the conditions to which I have referred. In cases of long standing the patient should be made to understand that it requires time and patience to carry out the proper course of treatment, and that a regime must be adopted that to some extent at least must be more or less

lent adjunct to the hydrotherapy and should be given with the object of stimulating better bowel movements and to improve the circulation in the periphery.

The *dietetic treatment* is of prime importance and must be regulated according to conditions of the stomach, intestines and intensity of the toxemia. In the majority of cases the patient suffers with a hyperchlorhydria and precautions should be taken not to aggravate this symptom. As far as the colon is concerned, a diet that will increase the bulk is necessary. A few who have an extremely sensitive colon are unable to take the coarser foods, but in the average case a

ments. The figures represent the number of grams of organic material which would be excreted daily by way of the bowels.

	Grms.		Grms.
Meat	26	Rice	50
Eggs	26	Maize	51
Macaroni	27	Turnips	101
Wheat Bread	36	Potatoes	133
Milk	42	Coarse Brown Bread	146

If we urge our patient to eat much of the vegetables, such as lettuce, spinach, celery, cauliflower and the like, we will have no trouble in producing a stool fully as bulky or more so than any in the table. If food indulged in is capable

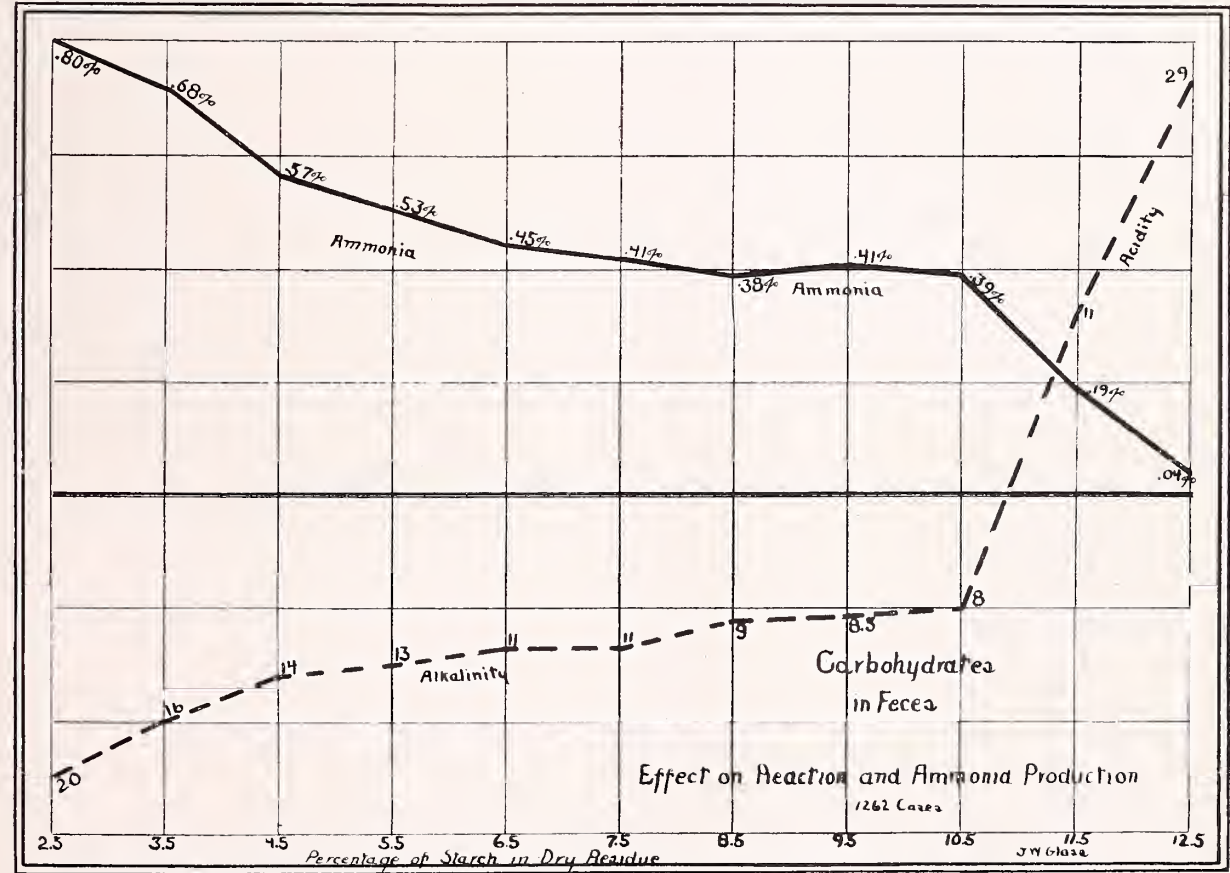


Fig. 7. Diagram showing gradual decrease of Ammonia and Alkalinity of feces, with the increase of Carbohydrates residue; based on examination of 1262 stools.

bulky type of food is positively indicated. The influence of the character of the food is shown by a comparison of the amount of fecal residue on different kinds of bread, as determined by Rubner (5).

Kind of bread	Wt. of moist feces	Wt. of feces dried
Bread from fine flour.....	132.7	24.8
Bread from coarse flour	252.8	40.8
Brown bread	317.8	75-79

Another table quoted by Starling, (5) Rubner calculates the amount of feces a man would pass in twenty-four hours if he subsided on one kind of food sufficient to satisfy his energy require-

of being completely digested and absorbed, then the bulk of feces will depend almost entirely on the secretions of the intestinal wall and the bacteria, which necessarily will be small in bulk and furnish insufficient stimulus for vigorous intestinal motility and the result is constipation, especially in a very sedentary individual. Hence, indigestible cellulose is of great value to counteract the results of more concentrated foods and the various green vegetables, fruits of all kinds and bran bread furnish us the best dietetic aids. The objects of the coarse food is two-fold: First, to give bulk and thus increase peristalsis. Next to increase the amount of cellulose and

starch in the colon, which tends to inhibit putrefaction by interfering with the growth of the putrefactive bacteria. The accompanying chart shows the influence of the presence of cellulose in the stool on the reaction, the amount of ammonia and the indol.

Another very important dietetic factor concerns the protein intake, because it is the source of the toxins to a large extent at least. The Vogt standard for the average sized laborer was 118 grams, or 484 calories of protein for twenty-four hours; and recently Chittenden and others have recommended from 50 to 75 grams of protein as being sufficient. The quantity necessary will vary some according to the physical activity of the individual and the tendency to intestinal putrefaction. Some individuals are particularly susceptible to the toxins and will suffer when protein intake is above 50 or 60 grams. I have studied a number of cases where subjective symptoms and objective findings prove conclusively that an excess of protein caused trouble. Even if we still cling to the Vogt standard we will find that the most of these cases indulge in far more protein than 118 grams, a day, and this is especially true among those living in hotels, etc., where the dishes, rich in protein, take a prominent place on the bill of fare.

W. J. Mayo, (6) in discussing the function of the colon, says:

"Reasoning from analogy we can say that the functional activity of the proximal half of the large intestine concerns vegetable intake. It has been shown that within one-hundred years the flesh intake of men has increased four times. The decomposition of unassimilated flesh develops poisonous substances. It is reasonable to suppose that when these end products are passed into the large intestine which has developed to the full extent only the power of carrying off vegetable material and fluids, such products may be absorbed, thus disturbing the sympathetic balance and producing symptoms which we speak of in our ignorance as neurasthenia, and which sometimes have been thought to be the result of mechanical conditions, bands, kinks, etc. Why may not these persons be cured by a purely vegetable diet?"

The knowledge of a balanced ration should be more general; then people who care for their health and efficiency would learn how to balance their diet and the danger of abnormal ratios of the food elements as well as the over-indulgence of food would be curtailed. No one cares to deny the fact that more harm results from over-indulgence of food than from other etiological factor in disease. Our agricultural colleges are teaching the farmers what is the bal-

anced ration for his animals, so as to give the best commercial returns, but when it concerns ourselves or the coming generation, we permit ignorance in these matters to reign supreme. It is our duty to teach our patients these things and do all in our power to see that the knowledge of how to live the most efficient and healthy lives becomes universal.

In case the dietetic regime does not produce more frequent and complete evacuations of the bowels, then we may resort to the use of the liquid petrolatum and agar-agar preparations. These act purely by mechanical means and are not irritating to the bowels, and as a rule can be taken indefinitely without any unpleasant symptoms. The use of purgatives is to be discouraged, in these cases, because they act only by irritating the mucous membrane and either have to be used almost continuously or we are sure to have periods of intense constipation.

Local treatment consists of improving the toilet of the rectum and colon. If hemorrhoids, ulcers or fissures are present have them eradicated by such means as you deem advisable in each case. If mucous membrane of the colon is covered with a mixture of mucous and feces, or if residual feces remain in the region of the sigmoid, then it is of great importance to see that this is thoroughly cleansed at least once a day. It may be necessary to remove the residual feces by means of an ordinary enema. The mucous adherent to the bowel is best removed by use of a small enema of normal saline and magnesium sulphate, to be retained while the slow Sinusoidal current is applied to the abdomen so that the solution may come in contact with the entire mucous membrane and cleanse it thoroughly.

Massage to the colon may be substituted for the Sinusoidal current, but in most cases, with less efficient results. In case of marked congestion and tenderness this cleansing of the colon may be followed by a soothing lotion such as liquor antisepticus alkalinus. Later cultures of the *bacillus bulgaricus* and *glycobacter* of Metchnikoff prove very valuable in inhibiting the production of putrefactive bacteria. A large portion of my cases have been treated with this solution with excellent results.

If the bowels are obstinately constipated, then an injection of a few ounces of oil at night is of great service in producing a morning stool and aiding in the relief of intestinal spasm. The high frequency current is also of value in overcoming this condition. After having carried out all of these various suggestions with

reference to overcoming abnormal conditions of the colon, we usually find marked improvement in the patient's condition. However, in the obstinate cases we must not think that a few weeks' treatment will cure them of their difficulty but we must give them an outline with reference to diet and such simple treatment as they can carry out themselves to keep the conditions from returning. Most of these learn by experience what will keep them in the best condition, and are more than willing to follow out any suggestions that can be given. Persistence along this line, over a period of months, or perhaps a year or more, usually gives decided relief. I have refrained from referring to the surgical treatment of these most obstinate cases because up to the present, reports of surgery of the colon are not the most optimistic.

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SKULL FRACTURES.*

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The increasing frequency of bone fractures, including those of the skull, and the possibility of bettering the results of their treatment have made them a live subject. In consequence there is no field of surgery that has been cultivated more assiduously during the last five years than has that of fractures. There are many surgeons who hesitate to follow Mr. Lane to the limit of his advocacy but it is a fact, nevertheless, that the operative treatment of the long bones has now been placed on a sound basis.

Not quite so much, however, can be asserted of skull fractures. To the profession at large they are still something of a bugbear because of their uncertain effects and high mortality. As a whole we have limited our treatment mostly to open fractures of the vertex with evident depression and to late cases in which pronounced symptoms had developed. Closed fractures of the vertex and fractures of the base have been generally let go by default.

Under the stimulus of modern surgery and the guidance of Roentgenology, skull fractures have aroused greater interest, as a result of which there has sprung up and grown in the profession a disposition to subject more of those cases to early radical treatment. To further this disposition by presenting a rational basis for it is the purpose of this paper.

The skull, under normal conditions, is admirably fitted to sustain and protect the brain, sense organs and cranial nerves. It is compact in size, convenient in form, buttressed for strength wherever needed and divided into compartments to suit separate parts and facilitate special functions. At the same time it is vulnerable, and not only may functions be impaired or extinguished but life itself snuffed out as results of skull fractures. These effects are produced by shock, whatever that may be, by laceration of the brain, by infection and by compression of either bone or blood.

Our control of shock and repair of brain tissue is limited; but in the prevention and treatment of infection and compression our opportunities and responsibilities are less limited. According to Harte, the mortality of skull fractures before antiseptic treatment came into use was 51 per cent. Now it is not more than 10 to 15 per cent. Hartley has placed the mortality of fractures of the base of the skull, treated expectantly, at 90 per cent. and those treated by operation at less than 35 per cent. Blair has recently reported a series of 63 patients with intracranial injuries, who lived more than two hours and were not operated upon, of whom 35 per cent. survived. The entire running series included seventeen others who died within two hours after admittance, altogether giving a mortality of 92 per cent. In another series of forty-two patients operated on, seventeen of whom were operated on within two hours after admission, 57 per cent. survived.

In order to obtain the best results in these cases it is essential, not only to have a perfect knowledge of the anatomy and physiology of the head but also to apply the principles of aseptic and antiseptic surgery faithfully in every instance and intelligently and courageously assist nature in restoring the normal equilibrium of bone and blood pressure within the cranium wherever it is indicated. It has been demonstrated that a material increase in normal intracranial pressure is incompatible with life.

It is not my present purpose to systematically discuss or classify skull fractures nor shall I describe technical details. It is sufficient to

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remark and be reminded of the possibility of fracture extending or occurring remotely from the site of the impact and of the existence of skull fractures and intracranial hemorrhage without obvious laceration of the scalp or depression of bone. It has been pointed out that the base of the skull is involved in 60 per cent. of fractures of the vertex and that fractures of the base extend up into the vertex in 80 per cent. of cases. It is necessary only to recall how often the X-Ray has established the existence of fracture, notably of the wrist and ankle, when mere sprains had been suspected, to appreciate the discovery by the same X-Ray of a skull fracture where concussion was supposed to account for the symptoms. I have been impressed also with the extension of fractures far beyond the indications on the X-Ray plate.

But it must not be believed or conceived that the bone lesion itself is the end and object of our study and treatment. The importance attached to a broken femur arises from the immediate laceration of adjacent soft structures and because the skeletal mechanism is thrown out of proper adjustment. Likewise a depressed fracture of the vault of the skull is a disfigurement but is of vastly greater importance because of the immediate dangers of hemorrhage, laceration of the brain and septic inflammation and remote possibilities of persistent headache, epilepsy and insanity.

Fractures of the base of the skull may be open in any of the three fossae, and so predispose to septic inflammation. A fracture of the anterior fossa is open if it lacerates the mucous membrane of the nares or conjunctiva. A fracture of the middle fossa is open through either tympanum or Eustachian tube. Fracture of the posterior fossa may be open through the pharynx. Blood and cerebro-spinal fluid may exude under certain conditions but it should be recalled that fracture of the base may exist without the appearance of either serous fluid or blood. In addition, fractures of the skull may result in paralysis of cranial nerves and those of the posterior fossa especially may be fatal through interference with the vital centers.

As has been stated already the treatment of skull fractures is based upon asepsis and the maintenance or restoration of normal intracranial pressure. Open fractures, whether of the vault or base of the skull, require disinfection and asepsis. Urotropin is an internal antiseptic for cerebro-spinal fluid. Depressed fractures of the vault, whether open or closed, should be operated upon without unnecessary

delay and the depressed bone elevated or small fragments removed. Preventive trephining, so called, forestalls subsequent cerebral affections. All cases of skull injuries should be regarded as serious until they are shown not to be so. If symptoms of compression supervene or increase in severity decompression is indicated. If intracranial hemorrhage exists as from a ruptured middle meningeal artery ligation and removal of clots is readily done. If there be intracranial tension subdural drainage may be provided.

Fractures of the base of the skull require the most careful consideration. Disinfection and reaction from shock are the first indications. If compression increases, spinal puncture may be tried and followed by subtemporal decompression with subdural drainage. If trephining on one side does not disclose hemorrhage or tension and the case be desperate the operation may be repeated on the opposite side, but operations are contraindicated in moribund cases.

ECTOPIC PREGNANCY. TWICE IN THE SAME PATIENT WITHIN FIVE MONTHS. REPORT OF CASE.*

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Series of careful investigations have demonstrated both tubes to show evidence of a former inflammation where one is the site of a gestation. Simons, (1) examining twenty-three specimens, found evidence of a former inflammation in all. Regardless of all this, Tait's theory, that tubal pregnancy is usually preceded by a former salpingitis, causing a destruction of the cilia of the tube, is today more acceptable to the clinician than the pathologist. While evidences of inflammation are to be had, those of destroyed epithelium are lacking. Williams (2) found the presence of cilia possible of demonstration in most of his cases of tubal pregnancy.

As Webster (3) was able to demonstrate decidual reaction in nearly all of his cases of ectopic pregnancy, he formulated the theory pointing towards the impossibility of the ovum to develop in tissue not capable of undergoing genetic reaction. Further, he stated definitely, that the ovum must always imbed itself in Müllerian tissue ere pregnancy will occur. As he was able to demonstrate Müllerian tissue in the ovaries as well as tubes, also small areas of decidual cells under the peritoneum in nor-

*Read before the Tri-County Medical Society, January 12, 1915.

mal pregnancy, all of which was later confirmed by Williams (2) and others, this theory is accepted as one of the most plausible ones.

In 1891, Landau and Rheinström (4) described diverticulae of the tubes and alluded to these conditions as possible to arrest the fertilized ovum and cause extra uterine pregnancy. Williams (5) found false diverticula in 95 per cent. of his cases, Kehrer in 78 per cent.; Huffman (6) reports anomalies in 54 per cent. of his cases. These anomalies have given rise to the "anomalous development theory."

Werth (7) suggested that a tube with an accessory ostia may account for ectopic pregnancy.

Essen Möller (8) has noted adhesions of the tube to be present in tubal pregnancy and points towards their possibilities as etiological factors.

Were a definite etiology known, an examination of the healthy tube would serve as an indicator of future ectopic pregnancies. As yet, the advisability of obliterating or removing the opposite tube in operating for ectopic pregnancy, is a debated question.

Accepting Tait's theory: most cases show a former salpingitis, an indication to remove both tubes.

Accepting Webster's theory: one ectopic pregnancy would not necessarily point towards a predisposition of the tube on the other side and the non-involved tube may be left with impunity.

Accepting the anomalous development theory; every tube showing a diverticula or anomaly, should be removed, but no other.

Thus a great leeway is given the surgeon. Normal pregnancies occur after a tubal pregnancy. We also know that tubal pregnancies will recur. Essen Möller (8) noted normal pregnancies to follow ectopic gestations in nineteen out of forty cases, or a little more than 47.5 per cent. He noted but two cases of recurrent extra uterine pregnancy and concluded "no normal tube should be extirpated." To emphasize his point, he cites statistics from Prochownik, (9) who noted twenty-five out of fifty-seven, or 43 per cent. normal pregnancies after tubal and from Engström, (10) who noted twenty out of forty-three, or 46.5 per cent.

Siefert (11) reports 5 per cent. tubal recurrences and holds the removal of the opposite tube is not justifiable. Smith, (12) in compiling statistics from 193 patients operated upon by different surgeons for tubal pregnancy, noted 32.6 per cent. subsequently had normal uterine

pregnancies and 14.6 per cent. had recurrent extra uterine pregnancies.

Normal pregnancies sandwiched in between extra uterine gestations are frequent. At times years may elapse between the pregnancies and again only a few months will intervene. Laurence (13) reports a case of ectopic gestation recurring after an interval of fourteen months.

In a case under my observation, the interval was but five months. At the time of the first operation, the healthy tube was examined and showing no evidence of diverticula or anomalies, it was left. The short lapse of time between the two incidents and the apparently normal condition of the opposite tube, makes the case of interest as well as of argumentative worth and may serve to strengthen the logical arguments in favor of obliterating or removing both tubes when operating for ectopic pregnancy.

CASE REPORT.

Mrs. R., Houghton Lake, Mich., house wife, age 28; well nourished, mentality above average; mother of two healthy children, respectively 7 and 4. No history of any former pelvic inflammation; lacerated perineum; miscarriage in March, 1913. May 6, 1913, she experienced a sudden sharp pain in the right pelvis, followed by collapse; pulse rapid; breathing labored; no rise in temperature; rigidity of right rectus, and tenderness over McBurney's point; diagnosis of appendicitis made. Patient taken to Cadillac for operation.

Diagnosis.—The early symptoms together with presence of a pelvic hematocoele and sanguinous decidual discharge, led me to diagnose a ruptured tubal pregnancy.

Operation.—At the time of the operation free blood was found in the pelvis. The tumor, a right tubal pregnancy, ruptured in the middle one-third, was removed. The opposite tube, apparently normal, was left at the request of the husband. Upon examining the appendix it was found to be gangrenous and was removed. This accounted for the confusing symptoms. The patient made an uneventful recovery and left for her country home in three weeks. Frequent reports informed me of her continued good health.

Subsequent History.—Oct. 8, 1913, she was again taken to the hospital. The day previous, she had suddenly experienced symptoms identical with those of five months before, excepting that the pain was on the opposite side. Her physician suspected a left tubal pregnancy and lost no time.

Second Operation.—A second operation was performed; her condition was very critical, the hemorrhage had been free and had not yet subsided though an interval of thirty-six hours had elapsed from the onset. Her pulse was rapid and weak, respiration labored and other evidences of shock were present. As soon as the ruptured vessel had been located and tied, a saline transfusion was administered. The tubal pregnancy, ruptured in the middle one-third, was removed. Veil-like layers of

fibrin, probably from the free blood, were found uniting the bowels and pelvic organs. These were easily broken with the gauze covered thumb. The abdomen was flushed with a saline solution. A rubber dam and gauze wick drain, as suggested by Coffey, (14) was installed and very efficacious.

Post-operative History.—After six uneventful days, she developed post-operative ileus. Medicinal measures served to no avail. I lost no time, but reopened the abdomen and loosened the bands of adhesions formed. The immediate results were satisfactory, but three weeks later the condition recurred. While these repeated operations were far from pleasant to the patient, no other course was justifiable. Although her condition was very bad, nevertheless she rallied, from this, her fourth operation, within the course of seven months, and proceeded towards a further uneventful recovery.

These cases demand courage of conviction, and early action. To wait for medicinal relief often spells fatality.

Had the apparently healthy tube been removed, all of these secondary operations, jeopardizing her life, would not have been necessitated. A case like this one, with so short an interval, makes it possible to appreciate Tait's words: "To leave a Fallopian tube in a woman who is the victim of extra-uterine pregnancy, is to needlessly, if not criminally, endanger her life in the future."

The tendency of modern surgery is towards conservatism; to leave all nonoffending and useful tissue and to remove all that is liable to destroy life or to cause the patient future discomforts. In this instance the wish of the patient should be voiced. But first and foremost, we must be governed by our knowledge and convictions. Whether we leave or remove the healthy tube, statistics may be cited to support our procedure. The question still remains a debated one. My present method is to remove the healthy tube if the patient is a multipara. If she is a primipara, save it with the hope in view that she will have a future normal pregnancy. The risk to which the patient is being put, is offset by the possible advantage.

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HOW AN EPIDEMIC OF DIPHTHERIA WAS CHECKED BY THOROUGH ISOLATION OF CARRIERS.

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This article was requested, not because of the seriousness of the cases, nor their number, but because of a few problems which were confronted by us and dealt with, more nearly I believe, according to the ideas of the State Health authorities and what has been learned by scientific investigation of the workers along this line, than is usual. I believe that the thoroughness with which it was handled has prevented a serious epidemic of the disease in this locality.

On October 4, 1914, a practitioner of our village called me, as health officer, to see a patient, a boy aged seven, who had presented himself at the Doctor's office for treatment for a sore throat. Immediately, upon inspecting the throat, I agreed with the Doctor in his diagnosis of diphtheria, and took the boy home. A culture was taken and a report, two days later, from the state laboratory verified our diagnosis. During this time the boy was somewhat ill, he was given antitoxine, and immediately underwent an uncomplicated and speedy convalescence. The next day, after seeing the boy, the second grade school room, where he was a pupil, was cleaned with bichloride solution and fumigated with formaldehyde; the boy's books burned and the grade ordered closed for the remainder of the week.

The following day another pupil in the same grade was seen by the same physician and

myself; the same diagnosis was made; it was verified two days later by the state laboratory; antitoxine was given and the child immediately recovered, except that she is yet a carrier after the elapse of three months, during which time many cultures have been taken and repeatedly declared positive by the state laboratory. Her father, who is caring for her, is also a carrier.

On October 26, 1914, at 9 p. m., I was called to the home of another second grade pupil who had been ill since morning, having been in the school on Friday, the 24th. Diphtheria was diagnosed, antitoxine was given and the state laboratory verified the diagnosis the next day. Recovery was prompt without complications. The second grade room was again cleansed as before; the pupils in that grade were all ordered to have their throats inspected by their family physician and a permit secured to re-enter school. Only four or five swabs were taken as suspicious by the physicians from the entire grade of forty-five children. Two of these I took myself, not because of a suspicion of diphtheria but because of hyperthrophied tonsils. In the report, one of these showed diphtheria present on Nov. 7. I then ordered the entire second grade to have swabs taken; the grade was closed; the books all fumigated with formaldehyde, after being spread out in the best possible manner. I wish to say, however, that of course every one knows that one cannot depend upon the results being perfect when one fumigates books.

The first series of swabs numbered thirty-one, of which *eighteen* showed the presence of diphtheria bacilli. None of these children were ill; they were absolutely healthy children with throats of the average school child. In two days the number increased to *twenty-three* positive cultures, and in a few days more the teacher of that grade was added to the number having positive cultures.

A meeting was immediately called, Sunday, Nov. 8, 1914, in my office, at which there were present: Dr. Burkart of the State Board of Health, Dr. Bartholomew, Health Officer of Lansing, and a State Board Inspector, all the physicians of the village, the School Board, the Superintendent of Schools, the ministers and other representative men. At this meeting the subject of diphtheria and diphtheria carriers was thoroughly considered. The position and duties of the health officer were made clear, also the duty of physicians in relation thereto, and the necessity of co-operation on the part of the citizens. It was decided that a culture

be taken from every child in the public schools before it would be allowed to return to the school.

On the following Tuesday morning 490 cultures were taken at the school-house, with the assistance of four other physicians, some of the teachers and high-school students. The clerical work was overseen and partially done by another physician. This work was systematically done in one hour. In all, including cultures not taken at school but mostly in the health officer's office, some in other physicians offices, about *six hundred cultures* were taken. The returns total *fifty-three carriers* of which two were not school children—one being the mother of a second grade child, the other the father of the second grade teacher. By grade the numbers were:

Teachers	1
Normal school	1
12th grade	1
11th grade	3
10th grade	2
9th grade	3
8th grade	1
7th grade	1
6th grade	4
5th grade	3
4th grade	2
3rd grade	2
2nd grade	24
1st grade	3

This result revealed that the danger spot of the entire school was the second grade.

After having taken the cultures the school was closed; the woodwork of the entire building was scrubbed with a strong cresol solution; the toilets all cared for in the same way. The children took their books home with given instructions how to bake them. The books remaining in the school were fumigated with formaldehyde. The following Monday the school was opened with such pupils as were not carriers or were not associated with carriers. All who had (before the report was received as to who were and who were not carriers) been associating in the home with carriers, were required to have another culture taken and the carriers absolutely isolated from them, and another negative report received before re-admission to school. Where this was impossible the carriers' associates were treated as carriers.

Another point I wish to insert here is this: Outside of the second grade, three cases of diphtheria developed during the period between the closing of the second grade for the second time and the taking of cultures from the entire school; one of these being in the high-school,

one in the fourth grade and one in the fifth grade. The fourth case developed in a second grade pupil on Nov. 4. He came home one evening, about October 19, complaining of headache and sore throat. His mother used home remedies and he was better the next day. He did not, however, gain normal health. When all pupils in the second grade were ordered to have cultures taken he was brought to my office, no symptoms or signs of diphtheria being present. Laboratory report showed him to be a carrier. He was isolated. November 21 I was called to attend him at his home where I found him ill with a membrane on his pharynx and on right tonsil. The child really looked much more ill than his symptoms would indicate. I gave him antitoxine, and the following day he felt, looked and acted much better—throat almost clear of membrane.

A fifth case came to light November 28, in the person of our county school commissioner, who came to my office with a "sore throat," after three or four days of illness, during which time no physician visited him but medicine was requested to be sent him for "a cold"—symptoms being chilliness, headache, nausea and some fever. Throat culture showed presence of diphtheria bacilli. On December 8, after two negative cultures had been reported on from the laboratory he was discharged from quarantine and the house disinfected.

CONCLUSIONS.

There is in this experience a valuable lesson to be learned. First of all it teaches us that when in an institution, such as a school, diphtheria appears it is a safe and comparatively easy matter to obtain cultures from those with whom the patient has been intimately associated, to ascertain for a certainty whether diphtheria actually exists among any of them or whether some of them may perchance be carriers.

Secondly, it shows the importance of keeping the nasal passages and throat clean at all times, whether any diseased condition is supposed to be actually existing or not.

Thirdly, for the safety of the public, whenever in doubt about the diagnosis, consider it diphtheria until a negative bacteriological report is received.

Fourthly, that probably it is the exception of the rule that a carrier develops the disease, only one of the series showing the possibility of such being true, so we might look at it that the presence of the germ in the throat to that

individual is a sign of immunity, although possibly a danger to those with whom he comes in contact.

The later portion of this last statement may be true and probably is, for the action taken for the protection of the public health by the state health authorities must be based upon the experiences of men with unusual opportunities for observation and study. I, therefore, as a health officer have not openly questioned a single order or requirement of the State Board and have tried to co-operate in every detail. My experience teaches me that it is difficult enough to get the laity to co-operate, even when they are thoroughly convinced that the thing you are requiring of them is reasonable and necessary. But, one thing that may seem strange to some, in this, my small experience here, is that not one—in so far as I know—after having been found to be a carrier was the cause of the development of a case of diphtheria in another, although many of their associates were later found to be carriers who were declared free when the first cultures were taken, and if all this care is necessary to keep down the epidemic why was it not proven to be so by some of these in constant association with these carriers, who, as a matter of fact, at the most only became carriers.

Possibly I can answer this question by saying that the number of carriers with which we had to deal was too small to prove or disprove anything for certainty, and then again some light cases of actual diphtheria *may* have developed about which nothing was said and therefore not known outside of the family. The last case of actual diphtheria in our series may have been one of these, for nobody knew the source of his infection, though of course there were many chances either inside or outside of a school room where this might have occurred.

Lastly, I wish to commend the service of Dr. Burkart, the Secretary of the State Board of Health, and his able assistant, Dr. Holm in charge of the State Bacteriological Laboratory, to every physician and especially every health officer in the State of Michigan. They are diligent hard workers on a comparatively small salary, with their constant thought for the safety and betterment of the public health of Michigan.

I believe the time is near at hand when we may be able to show the legislators of our state that they cannot do the state a greater service than to double or even triple the present allowance for the work which they are endeavoring

to carry on. Every thinking man who looks into these matters, even if he disregards the humanitarian standpoint and considers them only in the light of a cold business proposition, must admit that preventive medicine *must be "pushed."*

This means a well organized system of state control such as we are slowly working out in this state; slowly, principally because of the lack of finances. It means a larger force at our state laboratory with better pay for the workers. It means more pay for the local health officers, who, by their co-operation with state officials make this work possible. This can be done only by educating the people concerning the necessity for preventive medicine and closer attention to the details in a community upon which its health depends, until they demand studious, fearless and conscientious service such as can only be obtained by a considerable increase in pay over what the large majority of health officers receive at the present time.

It means also that physicians must be careful

of their remarks in a community where an epidemic is being fought or where the danger of one is recognized and preventive measures are being taken. A careless or passing remark spoken by such an one, to say nothing of actually condemning the work being done, may increase many fold the difficulties encountered with the public during the existence of such epidemics.

I feel sure that any physician who makes such remarks or who may be tempted to do so, would entirely change his attitude and be almost willing to sanction anything being done conscientiously by health officials for public health service, be it in his judgment right or wrong, if he should ever be so unfortunate as to accept the health officer's position and wake up some morning to find an epidemic of some kind to be dealt with. Fully realizing his duty to the public and at the same time aware that the public is so divided in their opinions that they will find fault with him if he does, and if he does not, and the only course he has to pursue is to do his full duty as he sees and knows it and take the consequences, whatever they may be.

Alborum.—Alborum is sold by the Whitehouse Chemical Co., Lynchburg, Va. and is stated to contain boric acid, alum, phenol and oil of peppermint, the amounts not being declared. This preparation lacks originality and is unscientific. Its exploitation being held contrary to the best interests of the public and the profession, alborum was refused recognition by the Council on Pharmacy and Chemistry (*Jour. A.M.A.*, Dec. 12, 1914, p. 2149).

Betul-ol.—Betul-ol is a methyl salicylate preparation advertised by E. Fougere & Co., New York to physicians and, indirectly to the public, as an external analgesic and antirheumatic. It was refused recognition by the Council on Pharmacy and Chemists because the statements regarding its composition are vague, misleading and incorrect, because unwarranted therapeutic claims are made for it, because the recommendations are likely to lead the public to the self-treatment of rheumatism, with serious consequences (*Jour. A.M.A.*, Dec. 12, 1914, p. 2148).

Cystogen, Cystogen Aperient and Cystogen-Lithia.—Cystogen is the therapeutically suggestive name applied to hexamethylenamin, by the Cystogen Chemical Company, St. Louis, Mo. By means of extravagant claims, unwarranted assertions and pseudo-scientific arguments the Cystogen Chemical Company advises the use of cystogen asperient or cystogen-lithia or all three in a well nigh endless number of diseases. The promoters take good care that every cystogen prescription is likely to spread the cystogen gospel among the people. In announcing the rejection of these products the Council on Pharmacy and Chemistry calls attention to the conservative

discussion of hexamethylenamin which appears in its publication "Useful Drugs" (*Jour. A.M.A.*, Dec. 12, 1914, p. 2149).

Cysto-Sedative.—Cysto-Sedative (Strong, Cobb & Co., Cleveland, Ohio) is said to contain thuja occidentalis, pichi, saw palmetto berries, triticum repens and hyoscyamus. Cysto-sedative was refused recognition by the Council on Pharmacy and Chemistry because unwarranted and preposterous claims were made in regard to its preparation and because unwarranted therapeutic claims were made for this unscientific mixture (*Jour. A.M.A.*, Dec. 12, 1914, p. 2149).

Ergoapiol.—Ergoapiol (Martin H. Smith Co., New York) is a mixture put up in capsules, each of which is said to contain apiol (special M.H.S.) 5 gr., ergotin 1 gr., oil savin $\frac{1}{2}$ gr., aloin $\frac{1}{8}$ gr. Examination indicated that each capsule did not contain 5 gr. apiol but an oleoresin of parsley seed. The recommendations in the advertising matter invite its indiscriminate use. The Council on Pharmacy and Chemistry refused to recognize this unscientific mixture of ingredients which has widely differing therapeutic effects (*Jour. A.M.A.*, Dec. 12, 1914, p. 2149).

Apergols.—Apergols, put out by H. K. Wampole Co., Inc., is apparently an inversion of the name ergoapiol and the preparation appears to have essentially the same formula. In general the claims made for apergols are the same as those made for ergoapiol. The Council refused admission to apergols because they are advertised indirectly to the public, because of unwarranted therapeutic claims, because of the non-descriptive name and because the product is unscientific (*Jour. A.M.A.*, Dec. 12, 1914, p. 2149).

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, December 2, 1914

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

AN ANALYSIS OF THE MORTALITY OF ABDOMINAL SURGERY.

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During the past five years considerable discussion has been provoked by renewed inquiry into the cause of surgical death and Crile especially, followed by Bloodgood and others, has been active in emphasizing anew the factor of insult to the nervous system in its relation to operative mortality. This has resulted in bringing out statistics from various sources regarding the mortality of surgical operation, and this paper is presented with the purpose of adding a mite to the group of figures that are accumulating, trusting that in the course of time something fairly definite may be determined which will abolish the already small mortality of major surgery in favorable cases and diminish the death rate in desperate ones.

The study is that of the abdominal operations performed by the writer in St. Luke's Hospital of Cleveland from July 15, 1908 to July 15, 1914, a period of six years.

A fair number of patients operated upon during the same time, both in other institutions and private houses is not included, although the results are approximately the same, but the technic was not so thoroughly under control, neither could the morbidity and final results be so accurately ascertained. It, therefore, rendered a rather complicated task more simple and accurate to confine the analysis to the patients in one institution.

The study furthermore is confined to abdominal operations because they comprised more of the work than that in any other one region and also because the published statistics of others are more frequently found to be in this field.

One difficulty presented itself immediately and that was the absence of any standard by which mortality is estimated, no uniformity whatever existing as to the basis upon which results are reported by various surgeons the greater number giving none of the data underlying their figures. Under these circumstances the percentages must vary according to the personal equation of the operator. This fact has led to a discussion in the body of the paper of the cause of death in each case, so nearly as that could be ascertained, together with the duration of life in the fatal cases, leaving the reader free to compile his own statistics if he does not agree with the writer's ideas as to classification. No case was tabulated if death occurred after leaving the hospital but none was hurried out to die at home. On the other hand some of the explorations were upon patients who lingered for many days in the hospital, neither better nor worse for operation, but if they died before returning to their homes the death will be found in the percentage column of surgical deaths. An attempt is made to separate the obvious operative deaths from those upon which the operation *per se* had no apparent bearing, and this again, is done in such fashion that the reader may make his own deductions. A comparison of "surgical mortality" which may be defined as death in the hospital of any patient from any cause if that patient had been operated upon, and "operative mortality," that is, death directly or indirectly as the result of operation whether the disease for which operation was performed was necessarily fatal or not, gives abundant latitude for a wide variety of percentage figures and justifies the distrust of such figures when published without accurate attention to details.

Another factor quite as potent in its influence upon the apparent mortality as the basis upon

which percentages are figured has to do with the *type* of cases upon which any reporter is operating.

The surgeon whose work is bounded above by the pelvic inlet should have a hardly appreciable death rate and if he belongs to the sclerocystic school of ovarian surgeons there should be no deaths in the hospital, although the population of the nearest hospital for the insane may be perceptibly increased. Again a surgeon who deliberately rejects the very bad risks, even though operation offers the only hope, may present a series of recoveries which are quite startling when compared with the results of one who operates regardless of the risk involved, provided only that operation offers more hope of recovery than a non-intervention. Again, in operations upon certain organs such as the gall bladder and stomach, a long series of recoveries and relatively few deaths may be contingent upon the fact that physicians referring cases for operation advise early intervention, while a hopeless looking set of statistics may be dependent upon the fact that the reporter is drawing his work largely from men who do their own easy operating and refer their advanced or technically difficult cases only. This is met by a discussion of the details of individual deaths so far as is consistent with a necessary regard for conciseness.

Although this paper is entitled "An Analysis of the Mortality" the subject of morbidity cannot wholly be avoided and mortality and morbidity do not necessarily run parallel. For example, the vitality of the tissues through which incision is made may be seriously comprised, and local infection follow in a great number of instances without death occurring.

Still another factor enters into any consideration of mortality statistics especially in elective operations for non-fatal chronic disease. A patient may make an operative recovery but not be cured, as when an appendix is removed and gall stones are undiscovered, or a gastric ulcer is excised but stomach symptoms continue because an appendix full of concretions is overlooked. It is obvious that the surgeon working under difficulties induced by imperfect anesthesia, or anxious to bolster his statistics will do one thing and one thing only and perhaps have fewer deaths statistically than the more thorough consistent operator, but in the long run the necessity for further intervention in a number of cases will equalize the deaths, and this can not be made to show statistically since two operations upon the same patient, but with

death resulting from the last one makes a statistical mortality of but 50 per cent. while the same death under a combined operation would show 100 per cent. An attempt to obviate this error is made tabulating the number of patients as well as the number of operations performed as there frequently was a duplication of abdominal operations. It must be understood, however, that a large percentage of the patients had several extra-abdominal operations performed which are not mentioned. Practically all the round ligament shortenings, uterine suspensions and fixations, and many of the salpingo-oöphorectomies had plastic work done upon the cervix and vaginal outlet at the same sitting.

Throughout the paper attention is given to a discussion of some of the cardinal principles governing the indications for operation and the anesthetic employed, and considerable consideration to those operative accidents and sequelae which, while not uniformly fatal, are always serious and sometimes lead to death, such as shock, hemorrhage, post-operative obstruction, etc.

Salpingo-oöphorectomy.—One hundred forty-two salpingo-oöphorectomies resulted in no deaths. There is little to say concerning them save that with one exception all were performed for true inflammatory lesions, following either gonorrheal, puerperal, or instrumental infection. An occasional case, of course, presented no adhesions, but for the greater part, the typical inflammatory exudate was encountered with adhesions to the uterus, bladder, or intestine, and the separation of such adhesions is not counted as a distinct operation. An ovary, or portion of ovary, was always left when such a course was at all practicable. On the other hand the radical operation was never undertaken intentionally during the hyperacute stage of infection, a let alone policy in acute gonorrheal salpingitis, and vaginal or abdominal incision with drainage in acute puerperal oöphoritis being preferred. No operation of any kind was undertaken deliberately during the acute stage of gonorrheal salpingitis with peritonitis, because life is not seriously menaced by the disease and operation is so safe after the subsidence of acute symptoms, and in addition the permanent status of the ovary is established by this time. During the acute stage the ovarian conditions is an unknown factor unless operation is performed before leakage from the tube has occurred, a stage when the surgeon rarely sees the patient. Occasionally a case has

presented itself in which pain, a little evening elevation of temperature, leucocytosis, etc. have persisted for several weeks in spite of constant rest in bed, and such patients have been operated upon without hesitation, but as a rule with few exceptions the salpingo-oöphorectomies for gonorrheal infection were done after the subsidence of acute symptoms, and as a rule with practically no exceptions some ovarian tissue was saved.

Those cases of adnexal disease which follow septic infection in our experience have proved almost universally to be ovarian in origin, so-called puerperal pelvic peritonitis being an extension from a puerperal oöphoritis. By this is meant, of course, only such patients as have survived the onset of the infection sufficiently long to permit of diagnosis and operation. It is not doubted that a streptococcic infection may be sufficiently virulent to penetrate the walls of the uterus without localizing either in the lymphatics of the broad ligament or in the ovary, but the usual type of *pelvic* peritonitis following abortion or full term labor has a distinctly ovarian origin and no drainage operation is complete, whether performed through the vaginal vault or anterior abdominal wall, which does not discover and evacuate the pus in the interior of the ovary; neither does a drainage operation result in cure unless this is done or the ovary ruptures spontaneously either before or after pelvic drainage is established. The wisdom of draining acute collections of pus is, of course, axiomatic, but for some years there has been a marked reaction against the use of drainage following abdominal operations unless the indications were quite plain—the old dictum “when in doubt drain”—having been exchanged for “when in doubt do not drain.”

The writer has felt that the reaction against drainage went too far and has never been ashamed or afraid to use drainage after salpingo-oöphorectomy when questionable pus had soiled the field or when the separation of many adhesions left an oozing surface upon which hemostasis was imperfect. In acute cases which are gone into unexpectedly this drain takes the form of a gauze cofferdam, separating the infected area from the general abdominal cavity, the gauze being “lost” in the pelvis and recovered through an incision in the vaginal vault after the abdominal incision is closed.

Twenty-seven patients were operated upon for tubal pregnancy without mortality, and in only one case was operation deferred until the patient was in better condition. This one had

an infected hematoma in the cul-de-sac which was walled off from the general abdominal cavity by adhesions above it and this was opened and drained, but repeated hemorrhage from the tube into the abdominal cavity made radical operation imperative a few days later.

The advocates of conservatism in the treatment of ectopic pregnancy have taught us that we need not operate in breathless haste with the first evidence of bleeding, but they have failed to convince us that we should not operate as soon as we can make proper arrangements therefor.

Following eighty-five ovariectomies for tumor there were two deaths. The first of these occurred in the third week after operation while the patient was up and about the ward. The symptoms were those of pulmonary embolism and this diagnosis was confirmed by autopsy. The second death was that of a patient who not only had two large papillomatous ovarian cysts removed, but who suffered also from mitral insufficiency with cardiac dilatation, parenchymatous nephritis and ascites. The operation was done to relieve the enormous abdominal distension and the discomfort which it caused, but without any hope of cure. The patient remained in the hospital two months and then succumbed to the cardio-renal changes.

Few myomectomies were performed and these for small or peduncuated growths only, the uterine myomata being so universally multiple that when operations was called for hysterectomy was usually chosen.

Of the ninety-two supra-vaginal hysterectomies for benign conditions none died in consequence of the operation, but one death occurred in the hospital from perforation of an undiagnosed cecal ulcer. This casualty took place after the patient had been discharged and if her arrangements for leaving had not miscarried death would have taken place in her home. As it was she was delayed and remained another night in the hospital where the accident occurred. As a diagnosis had not been made this must be reckoned as a surgical death even if the operation had nothing to do with it.

Of the complete hysterectomies for benign conditions the one death which took place was due to nephritis followed by broncho-pneumonia three weeks after operation. This was an instance of profound anemia from preoperative hemorrhage due to a submucous myoma. Vaginal myomectomy was attempted but found to be impossible and complete removal of the uterus from above was accomplished without

incident. The patient had no evidence of nephritis previous to operation and the anesthetic used was nitrous oxide. It is therefore impossible to say whether the death was merely a coincidence, or due in some way to her pre-operative hemorrhage, or to the operation itself, but the patient died.

Panhysterectomies for malignancy are infrequent in our practice since almost without exception the patients are seen too late unless the condition is discovered accidentally. The one death was from uremia probably due to too much interference with the ureters which were dissected out from a carcinomatous parametrium—a perfectly useless procedure by the way—but occasionally one uses poor judgment and gets in so deeply that to retreat is as bad as to proceed. The most remarkable case among the malignancies was one in which an extensive carcinoma of the portiovaginalis was mistaken for a protruding placenta and in his efforts at removing it the patient's physician had torn away a portion, ruptured the uterus, and entered the abdominal cavity. Panhysterectomy was performed as an emergency operation and the patient was living at last reports although recurrence certainly must have taken place.

Uterine suspensions and fixations resulted in one death. It was rare indeed that operation in this class was undertaken for uncomplicated retroversion or retroflexion, those which are tabulated under this heading being performed because the patient also had some other lesion needing attention. Either there was prolapse, deep laceration of the cervix or perineum, chronic appendicitis, or salpingitis, so that an anesthetic had to be given in any event and to the main operation a round ligament shortening, suspension, or fixation was added as the conditions, age, and social status of the patient justified.

This death was purely operative and accidental and has been reported before. The cause of death was a Littre's hernia through a small opening which was left in the broad ligaments after a round ligament shortening. There were no true obstructive symptoms and the origin of the vague abdominal discomfort was not understood until a small perforation had occurred in the intestine followed by sudden collapse and death.

There were, therefore, six deaths following 495 classified pelvic operations. (In the unclassified list, including Cesarean sections, operations for rupture of the uterus, etc., will be found two deaths following pelvic operations,

both being instances of ruptured uteri and both dying from the accident, the operation in each of them being a matter of last resort undertaken when the patient was practically moribund).

In the suprapelvic portion of the abdomen we have eighty-six operations upon the biliary tract, with five deaths.

The first of these deaths was due to injury to the pancreas and was a clear operative death, the pancreatic secretion digesting the catgut sutures used to close a pre-existing fistulous opening into the duodenum. Catgut alone is never depended upon in stomach and intestinal work, but in this instance only one row of sutures could be applied, a fact which was not ascertained until the duodenal opening had been closed with this material.

The second death was due to diabetic coma. This operation was undertaken deliberately with full knowledge that sugar was present in the urine in large quantities, but the patient had a palpably distended gall bladder and jaundice and her only hope seemed to lie in the possibility of draining the biliary system. No good was accomplished by this, however, and the patient died on the third day in deep coma.

Another death was due to intestinal hemorrhage ten days after an operation for chronic cholecystitis in a patient who was not jaundiced. Unfortunately no autopsy could be obtained, but later reflection has convinced me that some overlooked pathologic condition, possibly a chronic pancreatitis, was present in the digestive tract. She died, therefore, because of a faulty diagnosis rather than a faulty operation.

The last deaths were those of two patients who had lost much weight through years of suffering, one of whom had discharged great quantities of fluid through a biliary fistula which persisted after a cholecystostomy by a very competent surgeon. It is recognized that the use of the word "asthenia" as a cause of death is improper and imperfect, but no other term seems to fit these cases. Neither suffered any shock nor had marked elevation of temperature or pulse, and until within a few hours of death both seemed in about the same general condition as before operation.

We have more fear of the outcome of late operation on the biliary tract than of operation for any other chronic nonmalignant abdominal lesion and this is equally true if the patient is not jaundiced.

Eventually we feel that some of these deaths will be proven to be due to a change in those chemical processes normally taking place in the

liver by which certain poisons absorbed from the intestine are prevented from entering the general circulation.

The strangulated hernias were remarkably few. The intestine was either returned or resected in each case, no fecal fistulae being made, and all recovered.

Of ninety-three herniotomies for conditions short of actual strangulation, one—a patient with double irreducible scrotal hernia with one side incarcerated—died from pneumonia which began on the third day after operation and terminated on the eighth. This may have been a true postoperative pneumonia and not a coincidence, although at certain seasons when pneumonia is prevalent its etiology often must remain in doubt.

Operations for acute appendicitis and its complications.—It is a matter for regret that time did not permit me to ascertain the exact number of instances in which abscesses were opened and drained without removal of the appendix, but a liberal estimate would be two each year or twelve in all. We find such an indication in retrocecal and pelvic abscesses only, with an occasional case of intra-abdominal abscess in which the patient is so near dead that more radical interference seems impossible. After 170 operations five deaths occurred, all in late cases, that is, in patients who had been ill more than two or three days. One patient whose entire cecum was gangrenous died from intense toxemia, one from septic pneumonia, and one from intestinal obstruction, whether septic or organic was never determined, but the persistence of normal temperature until just before death makes one suspect that it was organic, although an enterostomy gave no relief.

Another had been ill seven weeks and succumbed to profound general sepsis ten days after operation. The last death in the series occurred in the person of a man of sixty who had been ill for six days before operation, during the last three of which fecal vomiting had been constant. After incision and drainage under local anesthesia, he lived four days without vomiting, but like the former died profoundly septic.

In this list all the common complications were met with, but in only one instance was operation deferred because the patient was too ill, this being a case of general peritonitis so far advanced that a pulse of 140 corresponded to a subnormal temperature and vasomotor paresis with cold, cyanosed extremities. After three or four days in the sitting posture with

absolute starvation, the temperature came up and the pulse down when he was operated upon under local anesthesia.

Most progressive internists at the present time agree with the surgeons that a patient with appendicitis which is severe enough to be positively diagnosable should be operated upon at once, not because the patient must die without operation, but because he might, and by reason of this attitude the mortality rate in acute appendicitis is constantly diminishing. We now feel that it should be kept in the neighborhood of one per cent. in any long series of cases which has been under the care of a competent physician from the onset, this occasional unavoidable death being due to obscurity in diagnosis, unwillingness on the part of the patient to submit to early operation, virulent streptococcal infection, septic pneumonia, or intestinal obstruction.

The 380 patients upon whom appendectomy was done for chronic or recurrent appendicitis, or as an incident in the course of other abdominal operations, recovered as a matter of course, it being a curious fact that none of the patients died from whom the appendix was removed easily excepting the round ligament shortening mentioned earlier.

The unclassified operations present the greatest absolute number of deaths as well as the highest percentage of those having any considerable numbers. They might readily be classified, but either so small a number of each particular type of operation was performed, or else the circumstances were so unusual that the results would be wholly misleading. For example, there were no deaths after pylorotomy, circular resection of the stomach, or gastrectomy, but there were five deaths following gastroenterostomy, an operation, which considered by itself, seldom should be followed by death. The first occurred in a victim of acute dilatation of the stomach which was the terminal event in a patient with carcinoma of the pylorus. This operation should not have been performed as the patient was moribund, but he was not seen until after he was anesthetized. The other four have occurred in the past three years. One death was from lobar pneumonia which began eight hours after an operation in which nitrous oxide was the anesthetic. The disease was benign stenosis of the pylorus, the operation was easy and accomplished in thirty minutes, and it seems certain that in this instance the pneumonia was a coincidence and not the result of either operation or anesthetic. Another death

took place eleven days after an operation for benign stenosis in a man of sixty-two who had been ill for years. Previous to operation his aspect was that of an individual who had undergone slow starvation to a point beyond recovery, and his postoperative history bore out that conclusion. He was given a chance, however, suffered no shock, had no postoperative vomiting or elevation of temperature, and no decided change in pulse rate. He continued to fail in spite of liberal feeding and saline and nutritive enemata, and at the end he simply ceased to breathe. Autopsy showed complete atrophy of the mucosa of the stomach and upper intestine with a perfectly clean operative field.

Another case was most interesting from the standpoint of diagnosis. This patient had a baby of three months and during pregnancy it was noted that her vomiting was exaggerated. After labor she had a marked femoral phlebitis lasting six weeks. Just convalescent from this, vomiting began again and on her admission to the hospital a week or ten days before operation one consultant insisted upon a pelvic lesion while I, myself, was perfectly confident that a cerebral embolism of septic character was present. She grew rapidly weaker and markedly emaciated and an indefinite mass finally was located in the epigastrium. Exploration under local anesthesia showed an enormous ulcer in a contracted stomach with almost complete closure of the pylorus. To complete the operation could not cause a worse disaster than to close up, so a gastro-enterostomy was performed under nitrous oxide. The patient died on the second day, probably from shock although the exitus was very sudden. Autopsy showed no leakage and no peritonitis. The whole of the pyloric end of the stomach and a part of the lesser curvature was occupied by a large deep ulcer from whose surface pus was exuding freely. The entire previous history, including the femoral phlebitis, was thus explained.

The last death following gastro-enterostomy took place three weeks after operation and was due to an unrecognized myocardial degeneration, no evidence of which was observed until after the patient began to move about the ward, when one attack of acute cardiac dilatation followed another and he finally died after five days of struggling with the heart complication.

As mentioned previously two deaths occurred after operation for rupture of the uterus. In one case the uterus had been ruptured during an attempted dilatation and curettage several days before and the pelvis was filled with the

mercuric solution used for irrigation. This patient had through and through drainage but died from true mercurial poisoning with a combination of nephritis and dysentery.

The second case was one of ruptured cornual or interstitial pregnancy at four months. The specimen obtained was the most interesting I have ever seen, the fetus floating free in the abdominal cavity while the placenta remained attached to a mushroom shaped excavation at the left uterine horn. This specimen was destroyed by the order of the head nurse to the nurse in charge of the morgue after the former had been told of its extreme value; that peculiar naiveté which sometimes actuates a head nurse being revealed in the cremation of the uterus and careful preservation of the fetus. I now think I might have saved this patient had I simply sewn the ruptured uterus into the abdominal incision and packed it with gauze instead of removing it, as the hysterectomy was complicated by adhesions left from a preceding pelvic operation. I think, too, that she might have been saved had I at that time known of any rapid safe method of indirect transfusion, one not requiring absolute quiet on the part of the patient; the thirsting and air hunger being so great that direct transfusion was at no time possible.

Intestinal resection following a high enterostomy for acute obstruction caused one death from straight operative shock.

Three other deaths were due to acute obstruction. One was that of a woman eight months pregnant in whom a coil of ileum was gangrenous, the obstruction being caused by a band low down behind the uterus. This band was cut but the mesentery proved to be too short to permit withdrawal and resection of the gangrenous loop which was consequently placed as near the incision as possible, surrounded by gauze and the wound left open. The patient went into labor on the second day in spite of large doses of morphine, and to obviate eventration a vaginal Cesarean section was performed. She survived both of these operations but on the third day the gangrenous gut gave way and flooded the abdomen in spite of the packing and she succumbed within a few hours.

Another death from acute intestinal obstruction was that of a patient who had been moderately ill with the classical symptoms of obstruction without strangulation for more than a week. On the night preceding operation her temperature rose to 104° with startling congestion of the face and she died a few hours after

operation with a temperature of 107° . My assistant insisted that this death was really due to sunstroke, but I prefer to leave the actual origin of the hyperpyrexia in doubt.

The fourth death from obstruction was inexcusable. The patient was a male, 59 years of age who had been losing weight rapidly for a year and a half. For a week there had been typical symptoms of acute obstruction which had been treated with cathartics. Finally a change of physicians was made and the last one recognized the condition promptly. The patient arrived at the hospital nearly moribund. Nevertheless an enterostomy was performed under local anesthesia but death took place twenty-four hours later without abatement of any of the symptoms excepting the intense pain. Autopsy confirmed the pre-operative diagnosis of carcinoma of the sigmoid with acute obstruction.

One patient in the unclassified list chose to gamble that I was wrong about his having a general abdominal carcinomatosis, asked for an exploratory incision, and died a week later from the toxemia of the disease. Another in the unclassified list had three operations for chronic intestinal obstruction of unknown character but which at first was presumed to be from adhesions between the gall-bladder and transverse colon. When these were overcome a gradual obstruction higher up became apparent and she died two months after the first operation, the last one being an enterostomy.

Still another died two days after an exploration for supposed subphrenic abscess which proved to be a melanotic sarcoma of the liver.

The last one in the unclassified list died from pneumonia just four weeks after an operation for acute hemorrhagic pancreatitis. This case was most interesting but time does not permit the rehearsal of its details in this report.

A recapitulation of the causes of death is of interest:

As distinguished from ordinary surgical deaths there were eight plain operative deaths; two from shock in patients already mortally ill; one from operative injury to the pancreas, one from postoperative obstruction and perforation, one from uremia, one from pulmonary embolism, and the two gallstone cases tabulated as dying from asthenia. In addition there were two deaths from pneumonia which succeeded clean operations at such a date that the origin of the pulmonary infection is in doubt.

Excluding the pneumonia deaths the operative deaths were eight out of 1032 patients, or

.78 of 1 per cent. including the pneumonias, 1 per cent.

The gallbladder patient with pancreatic injury, the patient upon whom a round ligament operation was performed, and the patient with incarcerated hernia were the only ones who did not have an early death staring them in the face at the time operation was done.

The four classical causes of death after abdominal operations are shock, hemorrhage, septic peritonitis, and intestinal obstruction. Both deaths from shock in this list were found in patients desperately ill from obstruction in the digestive tract. Nothing else was productive of enough shock to cause serious anxiety.

No death took place from septic peritonitis excepting as it followed intestinal perforation, and no death from peritonitis occurred in the series of operations for acute appendicitis with all its complications.

No death occurred from postoperative hemorrhage, the one death from hemorrhage being due to bleeding before operation.

Postoperative obstruction caused two deaths, one clean and one pus case. So much for mortality for the present.

MORBIDITY.

In the patients who recovered there was one instance of postoperative obstruction following operation in a clean field, and one following the removal of a gangrenous appendix.

The first was diagnosed early and relieved by the separation of adhesions, the last had an enterostomy performed by which intestinal resection was later necessitated from which the patient readily recovered.

Four clean cases are known to have incisional hernias, two cholecystostomies and two hysterectomies. It is likely that others have the same annoyance and many of the appendicitis cases complicated by abscesses or peritonitis and drained are known to have hernias which give but little trouble.

Postoperative Hemorrhage.—No abdomen was reopened for hemorrhage, although the walls of some of the late appendicular abscesses oozed rather profusely. Absolute and certain control of all primary vessels is considered imperative, one hand knots and whipping sutures never being depended upon to control large vessels and when catgut is used the knot ends are always left long. Oozing from large areas is invariably met with a gauze tampon which assists coagulation, drains off the serum, and prevents postoperative intra-abdominal hematomata.

Infection.—Two-patients in the entire list suffered a low grade infection in the abdominal cavity which probably was introduced at the time of operation and both recovered after the incision of a localized abscess. There was one instance of localized peritoneal infection caused by intestinal injury at the time of operation. This was a hysterectomy for an adherent myomatous uterus in which the rectum was opened and immediately closed, but a late pelvic abscess developed and drainage through the cul-de-sac was made necessary. The old fear that septic peritonitis may follow operation in clean cases has been abolished by modern, painstaking aseptic technic carried to the academic limit. Infection of the abdominal wall, aside from an occasional stitch abscess, occurs once or twice from clean appendectomies after every change of house surgeons, each of whom in turn must be trained to the conception that an appendicular stump is an infected portion of the intestine.

True stitch abscess is unknown in *clean cases* since the preparation of the abdominal skin has been simplified, unless some one ties a stitch too tightly or a local anesthetic has been used.

Postoperative Shock.—Serious postoperative shock was absent unless there was hemorrhage or an operation on a desperately ill patient. Hemorrhage during operation is a rare accident. Aside from hemorrhage, traction on mesenteries more than any other intra-abdominal manipulation seems to be most frequently shock producing and this is carefully avoided. Dry pads are always used in walling off the operative area. The latter originally were used dry to guard against infection as it seemed the height of folly to expect a pad already saturated to absorb pus or other suspicious fluid and keep from contamination the field not invaded, but Henderson's theory of carbon dioxide exosmosis from the peritoneum as a cause of shock has led to a firmer belief in the advantage of dry sponges over the much lauded "sponge wet with warm normal saline solution."

Postoperative Dilatation of the Stomach.—There was one example of the extreme type of postoperative dilatation which followed an operation for general peritonitis due to gangrenous appendicitis. This patient recovered after frequently repeated lavage. Another instance of acute dilatation illustrates the attention to detail which is necessary if we are to have the highest measure of success. Shortly after a gastro-enterostomy and occlusion of the pylorus for duodenal ulcer, biliary vomiting made its appearance. This is so unusual after the pos-

terior no-loop operation that the dressings were removed and the abdomen inspected when the much dilated stomach was visible in the left iliac fossa. Repeated lavage gave temporary relief but recurrence took place so promptly that re-operation was seriously considered. While sitting by the bed and palpating the thin walled abdomen it was observed that the resistance at the point of anastomosis was directly under a groove made by the taped adhesive strap which held the dressing in place. Leaving this one knot untied resulted in recovery without further attacks of vomiting.

We are confident that a good number of beginning cases of gastric dilatation were throttled in their incipency by the use of the stomach tube, epigastric distress and persistent vomiting associated with increasing distension of the abdomen always being met in this manner.

Postoperative Tympany.—Tympany beyond the most moderate degree is rarely seen save in patients whose abdominal cavities are infected before operation. In such patients tympany is recognized as a conservative effort on the part of nature to localize the infection and unless vomiting and elevation of temperature and pulse coincide in pointing to toxemia from stasis, nothing is done save to keep the lower bowel empty by means of enemas.

Postoperative tympany and gas pain seem to be much increased by the early introduction of food and drink into the stomach, and by the use of cathartics. Cold water soon after an abdominal operation inaugurates peristalsis in that portion of the intestine not parietic from handling, and causes the accumulation of gas and liquids in the parietic portion, and food and cathartics act in the same manner only more acutely. As I have remarked elsewhere, if the nervous surgeon would take a dose of bromide and forget to order calomel and salts for his patient, both would be in better condition during their convalescence from operation.

Anesthesia.—No discussion of postoperative mortality is complete without some discussion of anesthesia. Chloform is given to asthmatics only, so we are unable to discuss it intelligently. Ether, nitrous oxide and oxygen, and local anesthesia are used, the frequency of their use being in the order named.

Ether is the anesthetic of choice for routine abdominal work in the absence of coryza, bronchitis, nephritis, and tuberculosis, but it is our belief that anesthetics should be selected as carefully as narcotics, sedatives, stimulants, or any other class of drugs, and while ether is

always avoided in the foregoing conditions it is not invariably used otherwise. For example, postoperative ether vomiting makes nitrous oxide the anesthetic of choice for stomach work, but nitrous oxide rigidity almost eliminates it from consideration in gallbladder operations upon stout patients. Aside from operations upon the biliary tract and salpingo-oöphorectomies nitrous oxide rigidity scarcely interferes with the easy performance of any *single* abdominal operation, but with our present lack of precision in abdominal diagnosis it often does prevent complete exploration of the upper abdomen, the operator resting content with the extirpation of the organ for which the operation was undertaken but not investigating allied organs from which the symptoms complained of might arise. On the whole, patients are more nearly normal at an earlier date after the use of nitrous oxide than after ether, but this loses its importance in many instances in view of the fact that operative recovery is not necessarily synonymous with symptomatic cure.

A combination of nitrous oxide-oxygen anesthesia with a sufficient amount of ether to overcome rigidity is pleasant for the patient and minimizes postoperative nausea, but it has two drawbacks, the expense and the necessity for a skilled gas anesthetist—the latter being absolutely imperative unless one is callous to the risk involved. In this connection a volume might be written regarding the advantages and disadvantages of nitrous oxide as an anesthetic.

While many surgeons have used this agent more extensively I should like to call attention to the fact that we have used it more or less continuously for ten years and from this experience some rather fixed ideas have been formed.

On February 15, 1905, Dr. C. K. Teter first gave nitrous oxide to a patient of mine and before that Dr. Ernest E. Brown had for some time given nitrous oxide extensively for Dr. N. Stone Scott and occasionally for myself.

In practically all work outside the abdomen it is the anesthetic of choice, a skilled anesthetist being available, but in the abdomen it has some disadvantages as the writer has previously pointed out. (*Ohio State Medical Journal*, September, 1912. *American Journal of Obstetricians & Disease of Women & Children*, Vol. LXVII No. 1). Combined with a small percentage of ether many of these disadvantages are overcome, but nitrous oxide-ether anesthesia is not nitrous oxide-oxygen alone.

Local anesthesia plus nitrous-oxide was first used by the writer December 13, 1906, the

method of use being a cocaine, nitrous oxide sequence, and this method has been followed in many desperate abdominal cases since then. The object of this local anesthesia general anesthesia sequence, was to minimize the amount of general anesthetic inhaled by shortening the period during which general anesthesia was necessary should it be needed at all. By this method the abdominal incision is made under local infiltration alone and either nitrous oxide or ether administered when the exploration or operation reaches an extremely painful stage. No thought has been given to its minimizing shock through blocking all the sensory nerves from the operative field *since if all the sensory nerves could be blocked the operation would be completed under local anesthesia and a general anesthetic would be required only in unmanageable patients*. The method is thus not to be confused with the anoci-association method of Crile, although the writer's opinion based upon his experience with local anesthesia is that total abolition of sensation from an abdominal field is impossible and that therefore the advantages of both methods are due exclusively to the fact that the quantity of general anesthetic administered is greatly reduced. In this way the resisting power of the patient is not lowered and his vitality is conserved so that an operation which would be extrahazardous if carried out and completed under full surgical anesthesia is done with less comfort both of patient and operator but also with a greatly diminished risk to the former.

Some deductions from the writer's observations not especially brought out in the paper are that ether is safe so far as primary mortality is concerned in the hands of a fairly competent anesthetist if anesthesia is not so prolonged as to cause ether poisoning. Patients vary in their susceptibility to ether as they do to alcohol and poisoning will result in any case provided a sufficient amount is given.

Nitrous oxide as a surgical anesthetic is tolerated for a much longer time than ether, is the safest known general anesthetic in the hands of an expert, and in the writer's opinion the most dangerous of all general anesthetics when given by any other.

In the presence of pneumonia, bronchitis, nephritis, and tuberculosis, or at any time when respiratory affections are epidemic, local anesthesia or nitrous oxide should be used rather than ether.

Reverting again to the subject of mortality, the question could be taken up from an entirely

different standpoint, viz. the known duration of the disease before operation was performed. Upon this phase much more might be said than time will permit, but a few of the more striking facts will be given.

Of the five deaths following operation upon the biliary tract every patient had been known to have gallbladder disease, not only for months but for years, and a positive diagnosis could have been made in all but one of them from the clinical history alone. Notwithstanding this they had been allowed to drift until dangerous symptoms persisted over a long period of time before operation was seriously considered.

Both patients who died after ovariectomy had tumors so large that a snap diagnosis could be made on inspection, which means that these tumors had grown for many months.

Four of the five patient succumbing after operation for pyloric stenosis had had a clear cut history of stenosis of many years duration.

But one of the four patients who died from acute intestinal obstruction was seen within forty-eight hours of the onset of characteristic symptoms, and but one of the five patients with acute appendicitis which were lost was operated upon before the constant progress of the disease from the bad to worse had convinced both patient and attendant that operation was the only hope. To be sure many patients recovered under similar circumstances, but the significant fact remains that all but one that died were delayed not hours but days.

This short summary covers more than one-half of all the deaths tabulated and more could be cited from the list, but enough has been said to demonstrate that delayed operation in certain conditions which have a perfectly well known tendency toward disaster accounts for a large proportion of all the surgical deaths after abdominal operations.

An analysis of the facts presented, together with others familiar to the writer but too long to incorporate in this paper, seems to justify the following conclusions regarding *surgical* as distinguished from *operative* mortality.

First. There are certain combinations of circumstances in which surgery is helpless once the whole condition stands revealed. Such combinations are found in Nos. 21 and 26, and a very small but definite mortality is inevitable no matter when operation is done.

Second. That intercurrent disease like pneumonia, which in the present list is the largest single mortality factor, presents a definitely

perceptible risk. Whether it is a coincidence, the result of the disease for which operation is performed, the result of the anesthetic or the operation itself is not always clear.

Third. That explorations are bound to be made for conditions usually malignant, that are not otherwise diagnosable, and which on exploration prove to be inoperable; the patient sooner or later succumbing to his disease.

Fourth. That, in spite of all these, delay is after all the greatest single cause of surgical abdominal mortality.

As regards operative deaths:

First. There always will be an occasional death from pulmonary embolism and intestinal obstruction, bearing in mind that the latter condition is far more difficult to diagnose as a postoperative complication than as a primary disease.

Second. The death rate from shock should be constantly lowered by painstaking care in controlling hemorrhage, gentle handling of the abdominal contents, avoidance of traction on mesenteries, simplifying technic, and adjusting the duration of the operation to the patient's condition.

Third. Death from sepsis is not to be apprehended unless the patient is already septic or the intestinal tract is opened. Painstaking asepsis combined with constant effort to preserve the vitality of the tissues and conserve the patient's general resistance has reduced the deaths from sepsis to the vanishing point.

Fourth. Primary anesthetic deaths should be almost unknown since chloroform has been banished to oblivion. Local infiltration with weak solution of novocain presents no danger, and the novocain-ether or novocain-nitrous oxide *sequence* renders the danger of ether poisoning or nitrous oxide asphyxia practically nil no matter how desperately ill the patient may be.

It is the writer's belief that proper selection of the anesthetic for the case and proper handling of the tissues together with correct determination of the amount of operating which the patient can safely stand will do more to lessen the mortality rate in the hands of the average surgeon than any attempt to follow spectacular methods under fanciful names which appear like a comet, loom large for a time, and are forgotten so soon as the commotion produced by their unusual character has had time to subside.

TABULATION OF DEATHS.

Name	Age	Disease	Operation	Duration of life after operation	Cause of death
2. Mrs. G.	31	Rupture of uterus	Supra-vaginal hysterectomy	2 days	Acute anemia
4. Mrs. C.	39	Cholelithiasis	Cholecystostomy	1 day	Diabetic coma
5. Mrs. R.	50	Cholelithiasis	Cholecystostomy	2 days	Pancreatic injury
7. Miss C.	49	Uterine myoma	Supra-vaginal hysterectomy	31 days	Perforated cecal ulcer
8. Mrs. W.	41	Carcinoma of cervix	Wertheim's hysterectomy	6 days	Uremia
9. Mr. B.	42	Acute appendicitis, general peritonitis	Appendectomy	6 days	Septic pneumonia
10. Mr. S.	42	Pyloric obstruction	Gastro-enterostomy	5 days	Lobar pneumonia
11. Mr. S.	49	Incarcerated hernia	Double herniotomy	5 days	Lobar pneumonia
12. Mrs. F.	33	Intra-uterine myoma	Abdominal pan-hysterectomy	21 days	Broncho pneumonia
15. Mr. R.	46	Gangrene of appendix and cecum	Appendectomy, isolation of cecum	4 hrs.	Toxemia
16. Miss L.	24	Retroflexion, chronic appendicitis	Appendectomy, round ligament shortening	8 days	Intestinal obstruction
17. Mr. P.	45	Acute appendicitis, appendiceal abscess	Appendectomy	5½ days	Intestinal obstruction
18. Mr. H.	45	Acute intestinal obstruction	Enterostomy-intestinal resection	2 days	Shock
19. Mrs. A.	24	Gastric ulcer	Gastro-enterostomy	2 days	Shock
20. Mr. A.	62	Abdominal carcinomatosis	Exploratory laparotomy	6 days	Carcinoma
21. Mrs. F.		Acute intestinal obstruction	Laparotomy. Drainage. Vag. Cesarean Sect.	3 days	Intestinal perforation
22. Mrs. C.	61	Chronic intestinal obstruction	Release of adhesions-enterostomy	2 days	Chr. intestinal obst.
23. Mrs. G.	50	Ovarian cystoma	Ovariectomy	23 days	Pulmonary embolism
25. Mr. K.	56	Pyloric stenosis	Gastro-enterostomy	11 days	Starvation?
26. Mrs. W.	35	Perforation of uterus	Vaginal section, laparotomy	1 day	Mercurial poisoning
27. Mr. —		Acute gastric dilatation	Gastro-enterostomy	2 hrs.	?
28. Mrs. B.	44	Acute intestinal obstruction		12 hrs.	Hyperpyrexia?
29. Mr. C.	35	Acute hemorrhagic pancreatitis	Laparotomy, drainage	29 days	Lobar pneumonia
30. Mr. D.	67	Acute appendicitis, intestinal obstruction	Appendectomy, drainage	4 days	Sepsis
31. Mr. K.	54	Acute appendicitis, abscess	Appendectomy, drainage	10 days	Sepsis
32. Mr. P.	66	Biliary fistula	Cholecystenterostomy	4 days	Asthenia?
33. Mr. S.	45	Cholelithiasis	Cholecystostomy	7 days	Asthenia?
34. Mrs. S.	48	Ovarian papillomata	Double ovariectomy	53 days	Cardio-renal disease
35. Mrs. T.	67	Chronic cholecystitis	Cholecystostomy	9 days	Intestinal hemorrhage
36. Mr. W.	67	Pyloric stenosis	Gastro-enterostomy	19 days	Myocarditis
37. Mr. K.	59	Acute intestinal obst. carcinoma of sigmoid	Enterostomy	1 day	Intestinal obstruction
38. Mr. J.	32	Melanotic sarcoma	Exploratory laparotomy	2 days	Sarcoma

PERCENTAGE TABLE.

	Deaths	Per Cent	
Salpingo-oöphorectomy for inflam- matory disease .....142	0	.0	
Tubal pregnancy 27	0	.0	
Ovariectomy for tumor 85	2	2.35	
Myomectomy 7	0	.0	
Supra-vaginal hysterectomy for benign conditions 92	1	1.00	
Pan-hysterectomy for benign con. 10	1	10.00	
Pan-hysterectomy for malignancy 7	1	14.28	
Suspension, fixation and round ligament shortening .....125	1	.8	
Total classified pelvic operations..495	6	1.4	
Gall tract operations 86	5	5.81	
Strangulated hernias 9	0	.0	
Other herniotomies 93	1	1.07	
Operations for acute appendicitis ..170	5	2.94	
Chronic and incidental appendectomies .....380	0	.00	
	738	11	1.49
Unclassified	127	15	11.81
Total abdominal operations ....1,360	32	2.35	
Total patients .....1,032	32	3.10	
Deaths directly traceable to operation .....1,032	8	.78	
*Deaths directly traceable to operation .....1,360	8	.59	

*Incorrect method of computing mortality.

DISCUSSION.

DR. C. G. DARLING: I knew we were going to have something good from Dr. Skeel. He lives in a town where there is a great deal of competition and you may always look for something good from the man who has reached the top of his profession under such conditions. Above everything else we can see by the report which he has given us tonight that he is very honest in drawing his conclusions.

In operations upon children the type and amount of anesthetic employed has much to do with the mortality. I was struck in reading a paper by Dr. Cushing the other day by a statement that in his operations upon children two and three days old he used chloroform as the anesthetic. That is not so peculiar as that they survived. Now, we operate on very young children here without any anesthetic, for we have found that the danger from the anesthetic is usually greater than the danger from shock where an anesthetic is not used. We have learned that the highest death rate in children comes from the use of the anesthetic or that pulmonary complications following the anesthetic will cause the greatest number of deaths. So we have come to regard the anesthetic as a very important factor just as Dr. Skeel has pointed out in his paper.

He mentioned deaths from pneumonia. Etiologically these deaths might be classified differently, according to whether they came from exposure, from lowered temperature or from the irritation of the anesthetic. The following points may be con-

sidered although they were not mentioned: The care of the patient on the table, the heat of the room, the exposure of the patient as well as the prolongation of the anesthetic. In this Hospital we have been very much impressed with this latter danger and have tried to cut down the amount of anesthetic employed as much as possible.

I want to compliment Dr. Skeel upon his courage in presenting the mortality statistics. Most everyone who writes a paper nowadays is more anxious to tell of the number of patients who survive and the brilliant results obtained.

DR. REUBEN PETERSON: I know that I voice the sentiments of all present when I thank Dr. Skeel for the privilege we have had in listening to his exceedingly valuable and scientific paper.

First of all let me say that I am in hearty accord with his statement that operative statistics will vary according to whether the operator is looking after his own or his patients' interests. I have always advocated and tried to practice the elimination of the ego in surgery and the keeping in the foreground the interests of the patients. I have seen operators turn down cases because the risks were too great and they were fearful of spoiling their records. This is surgical cowardice and can not be too strongly condemned. Every surgeon dreads a high operative mortality but he should never let this stand in the way of saving a life, when without surgical interference death is inevitable.

Recently I have been engaged in a statistical study which has a certain bearing upon the work Dr. Skeel has outlined for us. During the past ten years I have palpated the gall-bladder in 1,066 patients when the abdomen has been opened for distinctly pelvic lesions. In many cases of abdominal section in this and my private clinic, it was impossible to palpate the gall-bladder for fear of infecting the healthy peritoneum with the products of the disease for which the pelvic operations were performed, so that these figures do not by any means represent all the abdominal work performed during the past decade. Gallstones were found in 12.66 per cent. of the 1,066 cases. The mortality in the 1,066 cases was 3.2 per cent., one-tenth of 1 per cent. more than in Dr. Skeel's 1,032 cases or practically the same in the two series.

I have not had time to group the cases as Dr. Skeel has done and perhaps it is just as well for I fear that such a grouping would show the superiority of his work over ours. This possibly can be explained by the fact that he was the sole operator in his series while in my series the work was performed by myself and quite a number of assistants who have during the past ten years operated in this Clinic. For this is distinctly a teaching hospital and while experience is gained at much less cost than in private practice, there is no question that a certain proportion of the fatalities can be explained in this way. Again this is shown by the fact that the mortality in my private clinic is only a little over 2 per cent.

There were two deaths in the fifty-seven cases where the gall-stones were removed at the same operation where the pelvic lesions were attended to. Although at the time it seemed perfectly safe to palpate the gall-bladders, subsequent events showed

this to be an error in surgical judgment, since both patients died of peritonitis, in neither case attributable to the gall-bladder incisions but to unsuspected purulent foci in the tubes. The remaining fifty-five patients made good recoveries, which is not to be wondered at since uncomplicated gall-bladder surgery should not be accompanied by more than a 2 per cent. mortality.

Without an analysis of the 1,066 cases it is impossible to show the many severe cases of surgery we have had to deal with in this clinic, but I can assure you that the proportion of such cases is very large, since the less difficult cases are apt to be operated upon at home nowadays. Moreover, these statistics include radical abdominal operations for carcinoma of the uterus where the primary mortality is 20 or 25 per cent. Incidentally it is interesting to note that the percentage of gall-stones in the carcinoma cases was very high, the calculi being present in 19.6 per cent. of the fifty-six carcinoma cases in the series.

In the statistics quoted, there were 1,066 patients; not the same number of operations. Had we yielded to the temptations referred to by Dr. Skeel in the statistics of a certain hospital, we should have had a number of thousand operations, since the gynecologist endeavors to perform all necessary operations at one sitting.

It is my practice to make use of the posterior vaginal incision in pus cases whenever possible. A number of the deaths have been due to errors of diagnosis when the abdomen has been opened in the presence of pus. I also favor the posterior vaginal incision in ectopic pregnancy if there be a chance of the hemotocoele being infected.

We are fortunate in having a competent demonstrator of anesthesia connected with our Hospital who knows how to administer and teach the administration of ether. In a few instances nitrous oxide is employed but in the majority of cases ether is used. Since this is a teaching hospital we believe a student should be taught to give one anesthetic and give it well.

I quite agree with Dr. Skeel that much of the mortality in abdominal work is due to delayed operations. In the 1,066 cases were many cases where death resulted from this cause. There were 103 sizeable ovarian cysts in our series, some of them suppurating from infection following twists of the pedicle and many did not come to operation until the patients were greatly reduced by sepsis. Severe anemia from bleeding fibroids plus delay is a complication difficult to deal with.

As Dr. Skeel says one cannot always avoid pulmonary embolism. Some of the most unexpected and saddest surgical deaths I have had have been from this cause. I do not know how one can absolutely avoid such fatalities, although I do believe as one's work improves in accuracy and gentleness that this complication will be met with less frequently.

It may be interesting to refer to the statistics from the Mayo Clinic, where there is no teaching and where every effort is made to evolve the most perfect surgical machine.

In 4,000 operations on the gall-bladder and biliary passages there was a mortality of 2.75 per cent., a remarkable showing if we take into consideration that many of these must have been de-

layed operations. In 2,165 cases of cholecystostomy there was an operative mortality of 1.5 per cent. while in 755 cholecystectomies the mortality was 2.4 per cent. and this mortality was not due to the kind of operation on the gall-bladder but to the conditions calling for the removal of the gall-bladder. In this connection I may say that in all but three of the cases in my series the gall-bladder was drained.

Again I want to thank Dr. Skeel for his most valuable paper, one of the best we have ever had before this society.

DR. H. H. CUMMINGS: I am glad to hear Dr. Skeel advise that appendicitis be subjected to operation as soon as the diagnosis is made. This attitude is coming to the front. Last year among the students we had forty frank cases of appendicitis. I don't believe we urged these young men to be operated upon. Eight were brought into the Hospital and operated. We had one fatality. This young man was in the Hospital, but left contrary to advice, saying he would return in June after he had received his master's degree. He had to be brought to the Hospital, however, before obtaining his degree, was operated upon and died. This year a medical student came in with a temperature of 104°. He delivered papers about town with this temperature. It was impossible to save this young man. In the last two days we have had two patients. Both have been operated upon and both are doing well. In the future we are not going to advise these patients, but we are going to bring them in, inasmuch as it isn't necessary this year to discuss the financial side of the question.

DR. W. A. HOYT: I am especially interested in Dr. Skeel's remarks concerning the postoperative care and treatment of these patients. I am of the opinion, however, that our mortality from acute appendicitis would not be as low as he has given in his series. This I think can be accounted for by the fact that we see very few of our patients during the early days of their attacks, since a very small percentage of our cases of appendicitis come from the city of Ann Arbor. On the other hand, the majority of them come from a distance and attempts have first been made to carry the patient through the attack to an interval operation. As a result most of these patients are admitted in a bad toxic condition with abscess formation which makes the prognosis much graver.

DR. SEELEY: There is one point Dr. Skeel made that I was rather interested in, that is, low mortality in cases of pelvic inflammatory disease. It is a well known fact that in most gynecologic cases as far as the activity of the infection is concerned, you can depend very well upon the temperature, leucocytosis and the palpatory findings. However, there is one class of cases in which we have found that you cannot always depend upon this, i. e. patients who come for operation after infection following either full term delivery or miscarriage. They are usually cases of streptococcic infection. In our cases of acute peritonitis our deaths have come in cases where we had no leucocytosis, no temperature, nothing active so far as we could determine, and yet, after operation when the pathologic report came in, we would get the report of an active focus of micro-

organisms present with no pus, simply active bacteria. Personally, I do not see how a surgeon can guard against this. If there be pus we can drain. If there be no pus, no temperature, no leucocytosis, there is no indication for this.

Another point that struck me as being rather uncommon is that Dr. Skeel makes no mention of poisoning from acetone. In a large number of cases we have found that acetone is more frequently found after operations than is usually thought, and I firmly believe that a large number of cases of persistent vomiting which heretofore have not been diagnosed are due to this condition. We have found that administration of sodium bicarbonate by mouth or by rectum immediately relieves this condition. In my recollection we have had two fatal deaths from autoneimia, both of these showing the typical findings postmortem.

DR. SKEEL: I fear that I did not appreciate how fortunate I have been until Dr. Peterson explained the character of the cases with which he has had to deal. I am certain the type of cases in this Hospital is quite different from that which one finds in the average non-teaching, semi-public institution.

The data which I have given do not include my teaching service in the Cleveland City Hospital, a service which I discontinued a year ago, although I had the good fortune to have lost no patients during a service of several years there. It should be explained, however, that this service was purely gynecologic and very light. In any municipal or state hospital, however, there are more alcoholics and drug habitues, more patients who have been overworked and underfed.

Reference has been made to the statistics of the Mayo clinic. It should be remembered that this clinic is in a small town and has few either of the overworked, underfed, or other victims of abject poverty, neither does it handle many of the acute cases, acute intestinal obstruction for example, which contributes so largely to the mortality of those whose material is drawn from a large city.

Mayo's manner of compiling statistics is fair, however, in that he includes all patients dying in the hospital, although they remain in that institution a short time only and it may be assumed that the malignant cases which are found inoperable on exploration are out of the hospital before death overtakes them.

Referring to Dr. Darling's remarks, I am again fortunate in having but few children to contend with. I believe there is not a death under the age of twenty in the list presented. This alone shows that I operate upon few children, in fact our pediatricist has the greater part of the children's service and therefore one great source of operative mortality, i. e. immaturity of the patients, is not shown in my figures. Postoperative pneumonia has disturbed me more than any other one complication. Postoperative shock is unimportant in routine abdominal surgery in comparison to pneumonia. In its production the first thing likely to be thought of is chilling of the patient and in that respect an experience of my own shows how an error may occur without the surgeon being himself aware of it.

At a time when respiratory infections seemed to be almost epidemic, we had a chief nurse with some opinions of her own regarding the matter of proper

clothing for the patients. It was noticeable that persons developing bronchitis and pneumonia were not confined to one ward or even one division but were scattered all over the house. As the epidemic continued less ether and more nitrous oxide was used, but without any abeyance in the number of respiratory tract infections. Purely by accident it was observed that all patients sent in for operation were treated alike in that they were deprived of all their usual clothing, given a bath, equipped with a light surgical jacket and put to bed without their underclothes: whereas many of the foreigners, Italians, Bohemians, Germans, etc. had been accustomed to sleeping not only in their underclothes but often with more clothing than they wore by day. After this every patient was asked as to his night clothing and if he were in the habit of sleeping in underclothes he was not deprived of them on the night preceding operation. I am unable to say whether or not it was a coincidence but the pneumonia ceased simultaneously with the cessation of an effort to teach personal hygiene at the expense of life long habits.

At the same time we changed the method of abdominal preparation using iodine after the patient was on the table, instead of scrubbing, alcohol and Harrington's solution, thinking the latter wet the patient too much, but we soon reverted to our old plan after the occurrence of two or three cases of severe dermatitis.

I can hardly agree with Dr. Peterson that teaching itself has much influence upon mortality as we also have a rotation of service and are obliged to give our assistants and internes some instruction in order to keep them. As I said in the body of the paper every new surgical assistant means one or two infections of the abdominal wound in clean appendectomies owing to poor management of the stump.

I am inclined to believe, however, that any appreciable difference between Dr. Peterson's mortality and my own is due to the type of cases submitted to him for operation together with the notorious and lamentable fact that state and municipal institutions are rarely so well or so adequately equipped as the semipublic and private hospitals.

I feel that any teacher can be sufficiently rigid, ugly if you like, with his assistants to check any break in their aseptic technic within a very few days. I know that when I was taking my first surgical training under Dr. de Nancréde I rarely made the same mistake twice else, figuratively speaking, my head would have come off and violently at that.

As to the mortality in gall-bladder surgery: this series is too short to mean anything and in a long series of cases I have no way of knowing whether the mortality would be 1 per cent. or 10. This is proven by the statistics of Dr. John F. Erdman of New York and his statements are reliable. In four years he operated upon 270 patients with a total mortality of 4+ per cent. but in one year he had forty-three operations without a death, the next fifty-four with four deaths, the next sixty-three with no deaths, again seventy-eight with six deaths, and in three months in 1914, twenty-six with three deaths. (*American Journal of Obstetrics*, November, 1914.)

Hans Keler in his monumental work on the surgery of the biliary tract classifies his cases as simple gallstones, moderately complicated, and those with

bos-artig complications. In the first the mortality is in the neighborhood of 1 per cent., in the second it runs much higher, and in the third 20 to 40 per cent. of deaths is not unusual.

The question of the re-formation of gall-stones is a serious one. It is claimed by some that so-called recurrence is practically always due to overlooked stones. In one case of my own small stones were discharged daily for two weeks after a cholecystostomy in which I know the gall-bladder was completely evacuated at the operation. In another instance I removed several stones from the stump of the cystic duct two years after a cholecystectomy. In still another a cholecystectomy was followed within six months not only by all the old symptoms, but also by jaundice which had heretofore been absent. I am sure an occasional common duct stone is overlooked and it seems to me to be quite impossible to avoid leaving some very small stones in the gall-bladder and cystic duct unless cholecystectomy is made the routine operation. That stones in the hepatic duct may be present and can neither be seen nor felt is obvious, so that whether stones re-form or are overlooked is still an open question. Of one thing I am convinced, that gallstones are often formed elsewhere than in the gall-bladder and that symptoms may recur after the most thorough operation. I always approach an operation upon the biliary tract with a certain degree of timidity both as regards the immediate outcome and the ultimate symptomatic cure.

In answer to Dr. Loree, I would say that prostatectomies and operations upon the bladder and kidneys are not tabulated because the paper is limited to operations which invade the peritoneal cavity.

Some questions were asked regarding appendicitis and the unexpected deaths which take place in patients operated upon after having been ill three or four days. It is precisely in such cases that I advocate and have used for nine years the local anesthesia general anesthesia sequence, believing that many of them die from the poisonous effect of ether given to the stage of general narcosis and maintained at that stage for a considerable period of time. The local anesthesia should be cocaine or one of its congeners, never quinine and urea, and if a large abscess is encountered with the patient in bad condition the operation may cease with its evacuation. On the contrary if the patient's conditions is fair and the appendix readily found a few whiffs of nitrous oxide or ether may be sufficient to enable one to do a complete operation with removal of the appendix. The patient is not deeply anesthetized although only too willing to go to sleep and the quantity of general anesthetic used is very small. Thus one does not have to fear the toxemia of infection plus the toxic effect of ether.

It is to be noticed that none of the acute appendicitis deaths were due to peritonitis. During the time covered by this report two patients died following operation for acute appendicitis in other institutions and neither of these died from peritonitis. I certainly do not believe any patient should die from peritonitis following operation for appendicitis unless peritonitis were present before operation, and very few even then. Postoperative peritonitis following operation for appendicular abscess can be avoided by thoroughly walling off the infected area

and if the abscess is huge and not adherent to the abdominal wall, by leaving the gauze in place for from seven to ten days.

What we really fear is acute general sepsis and postoperative pneumonia following lymphatic involvement in retrocecal appendicular abscess.

One gentleman raised a question as to the etiology of the fatal peritonitis in some salpingo-oöphorectomies, the tubes and ovaries containing no pus at the time of operation, the operation having been done for the late results of puerperal infection and after the subsidence of all acute symptoms. In one of these streptococci were found in the specimens removed.

Dr. Hunter Robb of Cleveland made a somewhat similar observation some years ago, and there is of course the best of authority for his belief that a walled-off focus of infection, giving rise to no symptoms, was responsible for the catastrophe. Nevertheless, I can hardly believe that so virulent a peritonitis as has been described could be due to a previously quiescent streptococci infection, and it seems to me to be much more probable that the fatal infection was introduced at the time of operation either from without or else through injury to the intestinal tract during the separation of adhesions. Certainly in no other portion of the body do we assume the presence of live virulent streptococci without tangible symptoms unless it be on mucous surfaces and the mucous surface of the tubes is in direct contact with unprotected peritoneum.

The question of persistent nausea and vomiting from acidosis was raised at the same time. We have little trouble with persistent vomiting except following gall tract operations and I have, perhaps wrongly, attributed this to the handling, packing, drainage, etc. An explanation of the absence of this symptom of acidosis may be the fact that we routinely use a great deal of sodium bicarbonate. So many abdominal cases complain of "heartburn" and "gas in the stomach" both of which seem to be relieved by this simple remedy, that I imagine that three-fourths or even more of them receive it on the second or third day after operation.

I think this covers all the questions asked, but I should like to record my conviction that any great difference in the mortality rate is not to be found among surgeons who are doing careful work excepting such as may be due to the character of the cases upon which they are operating.

One of the principal things which I desired to bring out was the actual source of our surgical deaths, and also to show that *under present conditions* most of them are unavoidable and but few are true operative deaths.

Incidentally the tabulation of "operative deaths" and "surgical deaths" reveals the truth in the much quoted statement that "there are lies, d—d lies and statistics." Bearing on this I could present 1,360 operations with but .59 per cent. operative deaths and be perfectly truthful, but on the other hand there were 1,032 patients actually operated upon of whom thirty-two died for one reason or another before leaving the hospital, thus giving a hospital mortality for my own abdominal patients of 3.1 per cent. This discrepancy justifies us in making every man who presents a startlingly low mortality

rate to publish simultaneously the basis upon which his mortality is estimated and state for our consideration just what he considers to be a surgical death.

A CASE OF CONVULSIONS IN A NEW-BORN BABY.

ALBERT H. BEIFELD, M.D.

Instructor in Pediatrics, University of Michigan.

This case, which occurred in the service of Dr. Peterson, is reported because of the rather misleading nature of the symptoms which led to a false diagnosis.

The family history is negative except for the fact that the baby was born out of wedlock. In the birth history the facts that the so-called "twilight sleep" anesthesia was used, and that the membranes were ruptured by the physician and that meconium was found in the amniotic fluid are noted. The labor was of short duration for a primipara and was normal in mechanism.

There was the usual degree of asphyxia encountered in cases where this anesthetic is used, but twenty-four hours after birth the respiration rate rose to 90 per minute and took on a Cheyne-Stoke's character. The infant was drowsy but not distinctly stuporous. Some hours afterward while the patient was under observation, it was seen to slowly turn onto the left side and a convulsion lasting a half minute, involving the left half of the body exclusively took place. That night thirty-six hours after birth, the child uttered a shrill cry and was found by the nurse to be in a position of exaggerated opisthotonos.

Examination of the child made when the dyspnea was the only symptom showed a premature ossification of the cranium involving the frontal and parietal bones to such an extent that the anterior fontanelle measured but slightly more than a centimeter in diameter. No bulging was made out. The lungs showed an unusual number of moist râles at the left base posteriorly. No other pathologic conditions other than the drowsiness and the dyspnea were noted. The examination of the placenta and of the blood of both mother and child were negative for syphilis.

From these symptoms and the course of the disease it seemed justifiable to assume that a condition of cerebral irritation existed and in view of the convulsion so clearly localized, a diagnosis of right sided meningeal hemorrhage was made. A lumbar puncture made the next afternoon failed to bring fluid of any kind to

the syringe. Against hemorrhage was the fact that this puncture failed and that there was no bulging of the fontanelle. This latter, however, may have been due to the fact that the small size of the fontanelle masked or prevented bulging. In the differential diagnosis syphilis and asphyxia were to be considered. The former was ruled out by the history and negative blood findings. The character of the symptoms made it seem possible to rule out asphyxia.

Exploratory operation was accordingly suggested and the right motor cortex was exposed by Dr. Darling. No evidence of bleeding was found. Death occurred twenty-four hours after the operation.

At autopsy the chief findings were hemorrhages situated in the pial covering of the base of the left lobe of the cerebellum (not involving the cortex) and in the pericardium and the pleurae. Atelectasis was found in the bases of the lungs, especially on the left side where signs of beginning pneumonia were made. The small size of the anterior fontanelle was found to be due to actual premature ossification and not to an over riding of the parietal bones. From these characteristic findings a diagnosis of asphyxia neonatorum was easily made.

In view of the complicating factors in the case it is impossible to make a definite diagnosis. The fact of the convulsion makes it probable that an abnormal degree of intercranial pressure existed. On the other hand, the fact that scopolamine-morphine anesthesia was used might have a bearing on the case, acting as an accessory influence in increasing the asphyxia.

DISCUSSION.

DR. REUBEN PETERSON: I have been so busy lately with hospital executive work that I did not have an opportunity of investigating personally the case reported by Dr. Beifeld. The case is interesting because the fetal death occurred when the morphine-scopolamine anesthesia was employed and naturally leads to the inquiry of whether this particular obstetric anesthesia can have had anything to do with the fetal death. We have only to look back over our obstetric experiences to be convinced of the fact that not infrequently newly born children died of asphyxia. So in this case, because the death occurred after the use of scopolamine, we are bound to consider the possible relation between the asphyxia and the use of the drug, although it does not necessarily follow that one was due to the other.

Some years ago we used scopolamine in the maternity clinic but the results were not satisfactory, largely I believe because our method of administration was faulty. Hence I have decided upon a more careful and extensive use of twilight sleep in the maternity clinic with the determination of reporting results honestly whether they be good or bad. For this reason I cheerfully gave my consent to have

this case reported and discussed this evening. I think it can not be emphasized too emphatically that above everything else the reports regarding a new treatment should be absolutely honest. It is so easy to give undue prominence to the good results and forget or minimize the failures. We see this tendency in certain clinics here and abroad and such methods, after all, do not fool observers who are very keen when they attend the clinics for the purpose of learning the true facts in the case.

Last summer I had an opportunity of spending a short time at Kroenig's clinic at Freiburg. While I was unable personally to spend the time necessary to judge of the value of the twilight sleep method, I was able to discuss the question with quite a number of physicians who had spent considerable time at the clinic. These doctors said there was absolutely no question as to the effect of the scopolamine anesthesia upon the mother. In almost all the cases there was analgesia, a decided lessening of the pains of labor. In a considerable proportion of the cases amnesia or a failure to remember the labor pains was present. These two results were accomplished without any particular danger to the mother, so far as the physicians were able to judge. However, most of the observers were somewhat doubtful about the effects of the anesthesia upon the child and just a little skeptical about the reported results so far as the child was concerned. A far better impression could have been created by discussing every fetal death very freely just as is being done in this case. If the method is not safe for the baby not many women want to risk it even if it makes them more comfortable. We are trying to be conservative in the selection of cases where the drugs are to be employed. The cases are being studied most carefully and the most copious notes taken. At least we can promise that future reports will be without bias and as honest as they can be made.

DR. F. M. LOOMIS: The chief interest in this case for our department is its relation to scopolamine anesthesia. Referring to Dr. Beifeld's outline, the delivery was neither difficult nor were instruments used; the baby was not premature; the Wassermann was negative; there were few pulmonary signs until after the operation when the baby was forced to lie upon its side; there is no history of alcohol, tuberculosis, drugs or syphilis; there was however, a definite malformation of the skull, the fontanelles being entirely closed.

I saw this patient first at three o'clock in the morning. The pains were regular, occurring every three or four minutes. At 3:20 a. m. she had morphine sulphate gr. one fourth and scopolamine gr. 1/160. This had only a quieting effect. Pains continued with exactly the same strength, and the labor went on normally. An hour later the patient received scopolamine gr. 1/160. Shortly after this the membranes ruptured and the amniotic fluid was seen to be stained with meconium. All this time the fetal heart was absolutely unimpaired. There was no apparent effect of the drug except rather marked analgesia, the patient being very quiet but using her pains well, until thirty or forty minutes later when slight mental confusion and amnesia appeared. There was still no disturbance of the fetal heart rate. Delivery was uneventful. When the baby was born it was slightly blue, went through the usual oscillation of heart

rate characteristic of scopolamine anesthesia, recovered and went up to the ward like other babies except that it was a little more cyanotic. If scopolamine played any part whatever in the outcome of the case, we are most anxious to place the blame where it belongs, but I am not at all convinced that we can justly ascribe this condition to the drug. The baby was definitely defective in that it had a malformed skull, and even the most ardent critics can scarcely ascribe closed fontanelles to scopolamine. We have now had about twenty cases of so-called twilight sleep, and are not yet ready to express a definite opinion of its value. We are using it conservatively and are watching our cases closely. The mother of this child is in excellent condition, had no postpartum complications, showed none of the usual exhaustion after labor, and has only a hazy memory of the entire process.

DR. C. G. DARLING: On account of my peculiar relation to this case I would like to discuss it, that is, the operative procedure. Evidently we are on the wrong track entirely about operations on these patients unless, as Dr. Beifeld suggests, we wish to terminate the existence of objectionable patients. The best paper that I have seen on this subject, in fact the only paper I have seen on the surgical aspect, is one written by Cushing in 1905; and while some of his cases were successful, he speaks of these successes with regret, since the patients survived the operations. In many cases we have to replace a small hemorrhage with a large operation and the results are not particularly good.

While sitting here another phase of this question came to my mind which should be considered very carefully, and that is in relation to "twilight sleep." We find that "twilight sleep" is not all, because we have injected into society the subject of eugenics, and if we have eugenics applied and the mother goes on and produces a perfect child and this perfection is all knocked out by such careful work in obstetrics, what is the use? The only way then to terminate any labor with sure success is by Cesarean section.

DR. A. H. BEIFELD: It is well known of course that asphyxia neonatorum has existed long before the use of scopolamine morphine anesthesia, so one must be cautious in attributing such conditions to the use of this anesthetic. Asphyxia as such is a rather grave condition in babies and has a very high mortality. One might at first say that anything which tends to increase this asphyxia would have still more marked effect upon infant mortality. I think that only time and further observation will answer this question. As to the question of the role played in the asphyxiation by the frontal bones of this patient, one might assume that if fontanelles act as "safety valves" for the brain in the passage of the head through the birth canal, the absence of such an opening due to premature ossification may have been one of the causes of the increased intracranial pressure with the resulting serious effects observed.

DEMONSTRATION OF TWO PATIENTS,
ONE A CASE OF EXFOLIATIVE DER-
MATITIS AND THE OTHER A
CASE OF GRANULOMA
FUNGOIDES SHOWING
THE RESULTS OF
TREATMENT.

UDO J. WILE, M.D.

(From the Clinic of Dermatology and Syphilology.)

I wish to present two patients who have been shown before, but are of interest now because of very marked changes in their conditions. In the first one the condition was very much worse than you see today. He was covered not only with this remarkable color but with a dense mass of scales. The present condition is the result of immersion in water for over 120 hours, followed by the application of powder, as advocated by Professor White of Boston. Treatment consists in allowing the patient to lie completely covered with starch, bismuth or ordinary talcum, the idea being that there is simply a mechanical factor working to life off the scales. That occurred in the most astonishing fashion in this case. We placed him in the powder bed with the result that he began to exfoliate pieces of epidermis from various parts of his body. I have here a box that was collected in one or

two days, many large casts of skin, as you can see. With this rapid exfoliation in large scales the small scaling has ceased. It is interesting to note that his nails are about to shed and there is evidently a healthy nail coming in place of the diseased one.

The second case which I desire to demonstrate is one in which the differential diagnosis was extremely difficult. A case of granuloma fungoides in which we seriously considered the possibility of the patient's having a sarcoma. At the time that the patient was shown, amputation was suggested by some one in the audience. There is no question as to the inadvisability of such a measure. The very rapid involution of these lesions and the disappearance of the tumors has proven conclusively the correctness of the diagnosis of granuloma fungoides.

I should like to say that Dr. Van Zwaluwenburg has kindly co-operated in the treatment of this case and without his treatment we could not have had this result. This woman has had four massive rays with almost complete disappearance of the tumor masses. She now walks around with perfect freedom. Previously she could not walk at all. The soles of the feet were entirely covered with tumors. There are still some small lesions on the foot.

Keller's Tuberculin Test Plate.—This appears to be an attempt to exploit the Moro tuberculin ointment. The test does not discriminate between active and latent tuberculosis. As most adult persons have experienced tubercular infection at some time in life, a large majority of persons will respond positively to the test (*Jour. A.M.A.*, Dec. 19, 1914, p. 2250).

Gastrogen Tablets.—These tablets, recommended by the Bristol-Myers Co., New York, to be used in connection with its other nostrum, sal hepatica, are said to contain pepsin, calcium carbonate, calcium phosphate and "aromatics." As patients who need an antacid do not need pepsin and vice versa the preparation is unscientific and the therapeutic claims made for it unwarranted. Gastrogen tablets were refused recognition by the Council on Pharmacy and Chemistry (*Jour. A.M.A.*, Dec. 12, 1914, p. 2149).

Iodotone.—Eimer & Amend, who market iodotone, state that it is a glycerin solution of hydrogen iodide, containing 1 gr. iodine to each fluidram. While iodine must act like ordinary iodides and while nearly one ounce of glycerin must be swallowed to obtain the equivalent of 10 gr. potassium iodide, the unwarranted claims are made that iodotone is superior to iodides. Because of misleading claims and because the name iodotone is likely to suggest its use as a general tonic, iodotone was refused recognition by the Council on Pharmacy and Chemistry (*Jour. A.M.A.*, Dec. 12, 1914, p. 2149).

Nourry Wine.—This wine, sold by E. Fougere & Co., is said to contain 12 per cent. alcohol and 1½ gr. iodine to the fluidounce in combination with tannin. Examination in the A.M.A. Chemical Laboratory showed that its action would be that of ordinary iodide and that the non-production of iodism is due to the small amount of iodine it contains. Claims are made which are prone to lead to its use both by the profession and the public in conditions in which effective medication is called for. The Council on Pharmacy and Chemistry refused recognition to nourry wine (*Jour. A.M.A.*, Dec. 12, 1914, p. 2150).

Cypridol Capsules.—Cypridol capsules, sold by E. Fougere & Co., New York, are stated to contain mercuric iodide dissolved in oil. The Council on Pharmacy and Chemistry refused recognition to cypridol capsules because they were sold under unwarranted therapeutic claims and because they were marketed in a way to appeal to the public. If the capsules are once prescribed the directions on the bottle and the full instructions for the treatment of syphilis which accompanies the bottle is likely to lead the patient to attempt to treat this malady on his own accord and thus probably forfeit his chances of a cure. Physicians who want to use a solution of mercuric iodide in oil, should have their pharmacist prepare it for them (*Jour. A.M.A.*, Dec. 19, 1914, p. 2247).

The Journal
OF THE
Michigan State Medical Society
ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Arthur M. Hume, ChairmanOwosso.
A. P. BiddleDetroit.
W. J. KayLapeer.
W. J. DuBoisGrand Rapids.

EDITOR
FREDERICK C. WARNSHUIS
Grand Rapids, Mich.

All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscriptions are to be addressed to Frederick C. Warnshuis, M. D., 91 Monroe Ave., Grand Rapids, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

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JANUARY

Editorials

PUBLIC HEALTH INSPECTION
DISTRICTS.

The following is a copy of the bill that has been introduced in the legislature. It is similar in character to the Amberson bill, defeated in the last legislature solely on account of public indifference to the question of public health.

The sanitary and public health work that has been done in Panama and which reduced a high tropical death rate to a point below that of any American city demonstrated that there is no further need to debate the statement that public health is purchasable. Cleanliness, sanitation, early diagnosis, isolation, efficient care and education of the public are the requisites for a lowered death rate in Michigan. The time is at hand when legislation to that end must be agitated to a successful enactment. Our profession should become universally active in the present campaign.

The expense and cost bogy will undoubtedly be raised by the opposition. Incontrovertible evidence is at hand to demonstrate that the enactment of the above bill, in a year or two, will be the actual means of saving money for the tax payers. Counties which now spend thousands of dollars supporting poor folks who are made dependent by reason of illness due to preventable disease will save these thousands of dollars by investing in the few hundred dollars

requisite to defray the expenses of preventive measures which this bill provides.

Every physician is urged to interview their senator and representative and secure his promise to support this legislation. Then arouse a like interest in other individuals and add their activity in the campaign.

Knowing as we do that trained sanitarians can go into any community and prevent disease when the laws of sanitation are applied to that community's drainage, sewage, water supply, poor districts, streets, housing, public buildings, contagious and infectious disease problems and thus add to the community's happiness, wealth and all those things that make life worth living—knowing this as we do, we should be able to convince the public at large and the legislature of the urgent necessity of the enactment of this law by our present legislature.

There is no more important question than that of public health. There is no more important movement than the present whereby we may vouchsafe to the people of Michigan this inestimable resource. It is our bounden duty to become aggressively active in the campaign that has been instituted for the securance of District Supervisors of Public Health.

A Bill to co-ordinate the Health Service of the State; to provide for the creation of Health Inspection Districts; the appointment of District Health Commissioners; to prescribe their powers, duties and compensation; and to prescribe punishment for violations of the provisions of this act, and authorizing the payments of necessary funds to carry out the provisions of this act.

SEC. 1.—The State Board of Health is hereby given the authority and it shall be their duty to establish not more than thirty districts within the State of Michigan to be known as Public Health Inspection Districts. In creating such districts, county lines shall be observed and the districts shall be composed of contiguous counties so far as possible.

SEC. 2.—In every such district there shall be appointed a Health Commissioner to be known by the title of District Health Commissioner, who shall hold office for the term of four (4) years commencing with theday of1915. Such commissioners shall be appointed from a list approved and furnished by the State Board of Health in the manner hereinafter provided. For the purpose of appointment of all such Commissioners, there shall be in each district, an appointing board to consist of the Judges of Probate and the County School Commissioners of the several counties embraced within such district, whose duty it shall be to meet at the county seat of the county having the largest population in

such district at a time and place to be fixed by the State Board of Health and to remain in session until an appointment of a District Health Commissioner shall be agreed upon and made. The said board shall notify the appointee of his appointment and shall also forward evidence of such appointment to the Secretary of State. The actual and necessary expenses of the members of such boards shall be paid out of the general fund of the state, when approved by the State Board of Auditors. The State Board of Health shall establish and furnish a list of eligible persons for appointment as such District Health Commissioners in the following manner: The State Board of Health shall at least once in a year, hold an examination in hygiene and sanitary science at the city of Lansing, under rules to be fixed and published by said board. Any person having the qualifications herein prescribed shall be entitled to take such examination. No one shall be so examined except a regularly licensed physician holding a license in this state, able-bodied, temperate, not addicted to the use of habit-forming drugs, and being of a good moral character. The state board of health shall fix a date between the first day of October and the first day of November of each year for the holding of such examination and may prescribe certain text books, health reports and health laws of the state as the basis for examinations. The board shall prescribe and fix a certain standard percentage for passing such examination and shall grade those who pass according to the efficiency shown on such examination. Provided, that each person applying for examination shall pay in advance to the secretary of said board the sum of ten dollars as an examination fee. All such fees shall be covered into the general fund of the state. Residence in this state shall not be required for either examination or appointment. Each person passing such examination shall be entitled to a certificate under the seal of the state board of health which shall be conclusive of the facts stated therein as to such examination and qualifications. The secretary of said board shall, as soon as the results of any examination have been arrived at, file a copy thereof with the secretary of state, showing the persons who have passed, and shall, at the same time, send by mail a complete list of those who have passed to each Judge of Probate and County School Commissioner in the state.

SEC. 3.—The various appointing boards herein authorized and designated shall meet on the first Tuesday in December, A.D., 1915 and every four years thereafter to perform the duties herein prescribed. They shall at such meeting, select from the list of eligible candidates who have passed any of the examinations herein provided for, and appoint a health commissioner for the district over which jurisdiction is conferred upon them. In case a vacancy arises in such office before the expiration of the term, the appointing board for such district shall meet within five days thereafter on the call of the secretary of the state board of health, and shall fill such vacancy in the same manner as is herein prescribed for regular appointments. Any person so appointed to fill a vacancy will hold office for the remainder of the term, and until his successor is appointed and qualified. Each health commissioner appointed shall file his acceptance and his constitu-

tional oath of office with the secretary of state. Each commissioner shall be required to give a surety bond in the penal sum of one thousand dollars, conditioned for the faithful performance of his duties, which bond shall be filed with the secretary of state. Such acceptance, oath of office and bond shall be filed and approved by the secretary of state within ten days after such appointment shall have been made, and a certificate of appointment and qualification shall thereupon be issued by the secretary of state to such appointee, under the seal of the state.

SEC. 4.—Each health commissioner shall give his entire time to the duties of his office and shall not engage in private medical practice, nor actively in any other line of business. They shall possess the statutory powers of a constable within the district for which appointed in all matters pertaining to public health and in the enforcement of the health laws. They are hereby declared to be officers of the state, and agents of the state board of health, and may be removed for malfeasance, misfeasance or nonfeasance in office or for incompetency, by the governor of the state, upon the complaint of any citizen of the state, and in the same manner as other officers of the state who may be removed by the governor.

SEC. 5.—Each district health commissioner shall receive an annual salary of thirty-five hundred dollars to be paid out of the general fund of the state in the same manner as other salaries are paid upon vouchers to be approved by the secretary of the state board of health. They shall also receive their actual and necessary expenses of travel, office maintenance, clerk hire, and of such duties as are imposed upon them by this act. They shall maintain a public office and a residence at a place within their respective districts, as designated by the board of health. Provided, that such expenses shall not exceed in the aggregate for any one district the sum of one thousand dollars for any one year. Provided, however, that in cases of epidemics of diseases within the jurisdiction of the state board of health such sum may be increased upon the recommendation and certificate of the state board of health. All expense accounts of such district health commissioners shall be submitted to the secretary of the state board of health for approval, and allowed by the state board of auditors. Such claims shall be paid out of the general fund of the state.

SEC. 6.—Whenever the office of such health commissioner shall be located in a county seat, it shall be the duty of the board of supervisors of such county to provide suitable quarters, free of charge, for such commissioner. The state shall furnish any special furnishings and equipment necessary for the proper administration of the office out of the general fund of the state, and as recommended by the state board of health.

SEC. 7.—It shall be the duty of the health commissioners to be vigilant in the work of disease prevention and the conservation of the public health, and to enforce all health laws of the state and health ordinances of their respective localities, together with all the rules and orders of the state board of health, and the local boards of health; to collect and report to the state board of health

morbidity statistics and to make a monthly report of the work done by them in narrative form to the state board of health, and in such tabular form as may be prescribed by the state board of health. Copies of such reports shall be retained by each commissioner, in permanent record books. They shall make such sanitary inspections and surveys of the district as may be required from time to time by the state board of health or by resolution of the board of supervisors of each county. They are hereby authorized and invested with the power to enter upon and inspect private property at proper times in regard to the possible presence, sources or cause of disease, to establish quarantine, and in connection therewith to order whatever is reasonable and necessary for the prevention and suppression of disease; to close schools, churches, theaters, or any place of public assemblage; to forbid public gatherings in order to prevent or stay epidemics; to collect statistics concerning insanity, feeble-mindedness, tuberculosis and other infectious diseases; to inspect slaughter houses and markets of all kinds where food is sold. They shall inspect at least once each six months and make a sanitary survey of the publicly owned buildings and institutions within their respective jurisdictions and shall keep a report thereon as part of the records of their office. They may inspect any school buildings or grounds within their jurisdiction as to sanitary conditions and shall have power to close any school when the sanitary conditions are such as to endanger or imperil the health or life of the pupils attending same. They shall include in their monthly report all such sanitary inspections to the state board of health. They shall at all times be subject to the orders of the state board of health in the execution of the health laws of this state and may perform any duty when required by the state board of health, or any member of said board acting for the entire board, which might be performed by said board of health or any officer thereof.

SEC. 8.—Local health officers shall be deputy health commissioners for their respective localities, subject to the directions, within their respective municipalities, of the district health commissioner, whose authority shall be supreme in all matters affecting the general health of the people of the district, the suppression of epidemics of dangerous communicable diseases, and in the enforcement of the orders of the state board of health. In all other matters local health officers shall perform the duties now or hereafter required of them by law. Any local health officers failing to obey or carry out any lawful order, rule or requirement of a district health commissioner shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than ten dollars nor more than one hundred dollars, for each such offense in the discretion of the court. Any person or public officer who attempts to hinder or prevent or who hinders or prevents any public health commissioner in the performance of any duty, required by this act, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than twenty-five dollars and not more than one hundred dollars, or by imprisonment in the county jail, or by both such fine and imprisonment in the discretion of the court.

SEC. 9.—Any city having a population of one hundred thousand and upwards, maintaining a city health department, shall be deemed an additional health district, but no district health commissioner for such additional health district shall be appointed or paid for under the provisions of this act. The chief health officer of such additional districts shall, however, be deemed an agent of the state board of health, and shall perform within his district the same duties as are in this act required of the several district health commissioners of the state.

SEC. 10.—The provisions of this act shall supersede all other acts inconsistent herewith, and if any provision herein made shall be held unconstitutional, such decision shall not effect the validity of any other portion or provision of this act, not expressly declared unconstitutional.

SEC. 11.—All sums of money necessary for carrying out the provisions of this act shall be paid out of the general fund of the state, and the auditor general shall incorporate in the state tax, for the year 1915 and each successive year thereafter, a sufficient sum to reimburse the general fund of the state, for all monies required for the purposes hereof.

THE BILL FOR THE APPOINTMENT OF DISTRICT HEALTH OFFICERS.

This Bill is given in full elsewhere in this number. I wish to urge the readers to go over the Bill most carefully and report any suggestions to the Secretary of the State Board of Health as soon as possible.

This Bill meets with the approval of the Committee on Legislation from the State Medical Registration, the Superintendent of Instruction, and the State Board of Health. It has been carefully drawn, and Major Pepper of the Attorney General's office has put much work and time in it. He thinks that legally it will stand any test.

It seems hardly worth while to urge intelligent medical men to support this Bill. It should commend itself. The salary provided for the district health officers, while not great, is believed to be sufficient to induce good men to give their time to the work. It seems to me that the time has come when the medical profession can render the people of this country a patriotic service, which has never come to any profession at any time or in any place. If the medical profession desires to retain the respect and appreciation of the public, it must do everything that it possibly can in the prevention of disease. Already each practitioner who treats a case of infectious disease is doing the best he can for his individual patient, and at the same time is rendering a broader and greater service to the public in preventing the spread of the disease. Indeed, the man who restores health to an invalid, from whatever cause, is

doing the public a service because every man incapable of work is directly or indirectly a burden to the community, while every man capable of supporting himself, and especially if he can support others at the same time, renders the community a service.

The qualifications demanded of the health commissioners in this Bill have been carefully studied, and I believe that they have been properly estimated and stated. The framers of the Bill have never lost sight of the fact that it is desirable to keep these positions as free from political control as is possible. There is not the slightest probability that the organization provided for in this Bill will in any way interfere with private practice. On the other hand, if its provisions are wisely carried out more people will consult their physicians more frequently than they now do. Besides, there is no surer way of killing off the incompetent and irregular practitioners, whether they be medical graduates or not, than by the organization proposed.

A Bill similar to this passed the New York State Legislature two years ago, and its provisions are just now being complied with. We believe that public health is the state's greatest and most valuable asset. This can be secured only by co-operation of the medical profession with intelligent members of the laity. I hope that each medical man who reads this Bill will urge his senator and representative to vote for it. It or something like it will come to every part of this country sooner or later. Michigan should be in the van and not in the rear in this campaign against ignorance and disease.

The State Board of Health will gladly consider any suggestions concerning any possible modification of the Bill which may lead to its betterment.

V. C. VAUGHAN, SR.

Editorial Comments

All dues are now payable. Those not paid by March 30th will witness the removal of the delinquent's name from the membership rolls of our organization. Please send your check to your County Secretary now.

The minutes of the midwinter meeting of the Council that was held in Ann Arbor on January 20, will be found in this issue. It is to your interest to read the record of the entire proceeding.

We understand that representatives are calling upon Michigan physicians and endeavoring to sell them stock in certain food and drug companies. The argument is to sell to physicians and thus urge them to prescribe these foods or drugs and so secure a volume of business that will pay large dividends upon the stock issued. The plan is not new or original. It has been worked before, and many there are who "bit" to their present regret. Our advice is to refrain from purchasing any stock thus offered. There are plenty of avenues open for safe and profitable investments. If seeking for such investments we advise consulting a reputable stock broker or trustee.

The value of your local organization will be in proportion to the effort you expend in its behalf. It is going to require inconveniencing yourself, possibly a long drive, hours of lost sleep, but in the end it will be worth many times more than all such effort may mean to you.

During 1914 the deaths of 2,205 physicians in the United States and Canada were noted in *The Journal*.¹ Reckoning on a conservative estimate of 153,000 physicians, this is equivalent to an annual death-rate of 14.41 per thousand. For the twelve previous years the death-rates were as follows: 1913, 14.64; 1912, 14.13; 1911, 15.32; 1910, 16.96; 1909, 16.26; 1908, 17.39; 1907, 16.01; 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73, and 1902, 14.74. The average annual mortality for the period from 1902 to 1914 inclusive was therefore 15.71 per thousand. The chief death causes in the order named were: senility, heart disease, cerebral hemorrhage, pneumonia, accident and nephritis. The age at death varied from twenty-three to ninety-nine, with an average of sixty years, eleven months and six days. The general average of age at death since 1904 is fifty-nine years, nine months and nineteen days. The number of years of practice varied from one to seventy-five, the average being thirty-three years, nine months and twenty-nine days. The average for the past eleven years is thirty-one years, eleven months and twenty-two days.

Causes of Death.—There were 225 deaths assigned to general diseases; 229 to diseases of the nervous system; 296 to diseases of the circulatory system; 145 to diseases of the respiratory system; ninety-three to diseases of the digestive system; 125 to diseases of the genito-

1. *Jour. A.M.A.*

urinary system; three to diseases of the skin; three to diseases of the bones; 411 to senility; twenty-seven to suicide; 111 to accident; thirteen to homicide, and seventy-nine after surgical operations. Among the principal causes of death are senility, 411; heart disease, 211; cerebral hemorrhage, 185; pneumonia, 124; accident, 111; nephritis, 108; malignant disease, fifty-six; tuberculosis, forty-eight; appendicitis, thirty-six; diabetes, thirty-three; suicide, twenty-seven; septicemia and arteriosclerosis, each twenty-five; angina pectoris, twenty-three; typhoid, seventeen; gastritis, fourteen; myocarditis and homicide, each thirteen; cirrhosis of liver, eleven; pernicious anemia, ten; endocarditis, nine; meningitis, eight; rheumatism and cholecystitis, each seven; bronchitis, six; influenza, locomotor ataxia and scarlet fever, each five; erysipelas, tetanus, pellagra, general paralysis of the insane, aneurysm, intestinal obstruction, peritonitis, Hodgkin's disease and mastoiditis, each three; dysentery, syphilis, drug addiction, mental alienation, pleurisy and carbuncle, each two deaths, and malaria, small-pox, plumbism, chorea, embolism, ulcer of stomach, ulcer of duodenum, hernia, Addison's disease and retropharyngeal abscess, each one death.

The causes assigned for the 111 deaths from accident were; automobile, twenty-five; falls, seventeen; poison, ten; automobile and railway, nine; railway and drowning, each eight (of the latter, three were drowned in attempting to save lives); street car, six; fracture of hip, five; asphyxiation, firearms and sunstroke, each four; burns, by animals, freezing and lightning, each two, and explosion, runover and runaway, each one. The twenty-seven physicians who ended their lives by suicide selected the following methods; firearms, thirteen; poison, ten and asphyxiation, strangulation, cutting instruments and cause not stated, each one. Of the thirteen homicides, ten were due to firearms, two to clubbing or beating and one to stabbing. Of these, four occurred in feuds or affrays.

Ages.—Of the decedents, sixty-one were between the ages of twenty-three and thirty; 199 between thirty-one and forty; 319 between forty-one and fifty; 432 between fifty-one and sixty; 477 between sixty-one and seventy; 404 between seventy-one and eighty; 193 between eighty-one and ninety; while twenty-one were more than ninety years of age. The greatest mortality occurred at the age of sixty-two, when sixty-eight deaths were recorded, at seventy with sixty-one deaths; at fifty-nine with fifty-nine deaths; at fifty-four and fifty-five with fifty-eight deaths

each; at seventy-four with fifty-four deaths, and at sixty-nine when fifty-one died. There were seven deaths each at ninety-one and ninety-two; three at ninety-five; two at ninety-three, and one death each at ninety-four and ninety-nine.

Years of Practice.—By periods of ten years, the physicians died as follows: In the first decade, 162, of whom seven had been in practice less than one year and twelve less than two years; in the second decade, 304; third decade, 421; fourth decade, 553; fifth decade, 443; sixth decade, 225; seventh decade, eighty-four, and eighth decade, five, three of whom had been in practice seventy years and one each seventy-one and seventy-four years.

The Wayne County Medical Society, after due consideration, unanimously voted to extend to the American Medical Association through the Michigan delegates its invitation to hold the 1916 annual meeting of the American Medical Association in Detroit. *The Journal* is disposed to congratulate the profession of Wayne County upon this decision and assures the Wayne County Society that the entire profession of the state is prepared to support them when preparing to entertain our national organization. The annual meeting of the American Medical Association for this year will be held in San Francisco during the forepart of June. In a future issue we will have occasion to publish a more detailed comment upon this subject.

The Journal subscribes to a somewhat limited newspaper clipping service to secure information regarding the profession throughout the state. This service has served the basis for supplying the items for our News Column. Its limited scope does not enable us to chronicle all the professional happenings in the state. In order that we may be enabled to publish a larger number of items that are of interest to the general profession we are asking our readers to favor us with local newspaper clippings and news items. This co-operation will be sincerely appreciated.

During the past year but two complaints have reached our desk regarding *The Journal*. One was an objection to the enameled paper that is used on account of its gloss and the other was that our original articles were of but small value and interest to the country practitioner because of their scientific trend. Answering the first objection we submit that the reason for using the enamel paper is because of its tensile strength and because it enables us to print clear

illustrations; further, we feel that it adds class and dignity to our publication. In regard to the second complaint we feel inclined to resent the criticism as unwarranted. We admit the scientific indictment but submit that in such articles the reader will find the practical application that will fit daily practice, be he city or country practitioner. True, we have wished that we could publish more articles bearing more directly upon the work of the busy man but as only few such articles are submitted, and, as it is impossible for us to secure them from only those who are busily engaged in those fields, we are forced to pass the blame onto the complainant for failing to supply us with the articles which he states are not found in our pages.

We are endeavoring to make *The Journal* contain in its every issue, something that is of value and interest to every reader—be he country practitioner, or, city specialist. At all times are we ready and eager to receive constructive criticism and welcome suggestions. Limited space and finances compel us to curtail the size of each issue and at times occasion our regret on account of having to return an article or report. We, however, solicit the sending of original articles and case reports and promise to publish everyone that is deemed, by the Publication Committee, as of interest to a majority of our readers. Remember that this is your *Journal* and we want you to hold a vital and active interest in it.

Attend the meetings of your society regularly. Participate in its discussions. Learn to know your neighbor intimately. You will be bound to like him in the end. By so doing everyone will receive larger benefits from his membership holdings.

Deaths

Dr. Walter W. Williams, Bay City, died at his home Jan. 9, 1915. Dr. Williams was a well known Bay City physician, having practiced medicine in that city for the past seventeen years.

Iodalia.—Iodalia (Geo. J. Wallau, Inc.) is claimed to be a valuable substitute for iodides. Examination in the A.M.A. Chemical Laboratory indicated that when administered it would act like ordinary iodides and that to obtain the equivalent of 20 gr. potassium iodide it would be necessary to give the contents of a one dollar bottle of iodalia. Particularly reprehensible among the many unwarranted claims made is one which suggests to the public that iodalia will protect against infectious diseases. The Council voted that iodalia be refused recognition (*Jour. A.M.A.*, Dec. 12, 1914, p. 2149).

The Annual Meeting of the Council 1915

The Annual Meeting of the Council of the Michigan State Medical Society was held in the Faculty Room of the Medical Building of the University of Michigan, Ann Arbor, on January 20, 1915, with Chairman W. T. Dodge presiding and the following councilors present:

1st District—A. P. Biddle.
2nd District—A. E. Bulson.
3rd District—S. K. Church.
4th District—A. H. Rockwell.
5th District—W. J. DuBois.
6th District—A. M. Hume.
7th District—W. J. Kay.
8th District—A. L. Seeley.
9th District—B. H. McMullen.
10th District—
11th District—W. T. Dodge.
12th District—R. S. Buckland.
13th District—F. C. Witter.
14th District—C. T. Southworth.
President—Reuben Peterson.
Secretary-Editor—F. C. Warnshuis.
Chairman Medico-Legal Committee—F. B. Tibbals.
Legislation and Public Policy Committee—H. S. Bartholomew.

The minutes of the last meeting of the Council that was held in Lansing, September, 1914, were read by the Secretary and approved.

The Secretary-Editor submitted his annual report for the year 1914 as follows:

ANNUAL REPORT OF THE SECRETARY-EDITOR

For the Year Ending December 31, 1914.

Rendered to the Council, January 20, 1915.

To the Chairman and Members of the Council of the Michigan State Medical Society:

In submitting to you, this, my annual report for the official society year closing December 31, 1914, I desire at the very outset to acknowledge my continued appreciation of the honor of being privileged to do so and to express my sincere thanks for the universal co-operation that has been extended to me by every member and official of our organization. The confidence so frequently manifested during the year prophesies our rapid approach to one compact, harmonious organization.

I herewith submit for your information the auditor's statement and my own itemization of the source and disbursements of the Society's funds:

EXHIBIT A.

Savings a/c	\$1,025.00
Bond a/c	2,000.00
Bank checking a/c	208.91
Accounts receivable	694.90
Journal expense	6,087.37
Society expense	2,013.38
Secretary's expense	78.98
Council expense	144.11
Reprint expense	1,287.77
Dues	\$2,360.00

Subscriptions	2,358.25
Defense fund	156.00
Advertising	2,910.42
Reprint sales	1,010.40
Outside subscriptions	27.12
Interest	291.35
Present worth	6,751.93
	<hr/>
	\$15,865.47 \$15,865.47

EXHIBIT B.

Statement Showing Losses and Gains During
the Year 1914.

Journal expense	\$6,087.37	
Society expense	2,013.38	
Secretary's expense	78.98	
Council expense	144.11	
Reprint expense	1,287.77	
Dues		\$2,360.00
Subscriptions		2,358.25
Advertising sales		2,910.42
Reprint sales		1,010.40
Outside subscriptions		27.12
Interest received		291.35
	<hr/>	<hr/>
	\$9,611.61	\$8,957.54
	8,957.54	

Net Loss for the Year\$ 654.07

EXHIBIT C.

	Assets	
Certificates of Deposit in hands of Treasurer	\$3,350.05	
Bonds in hands of Treasurer	2,000.00	
Cash in G. R. Savings Bank (checking a/c)	208.91	
Accounts receivable, advertising and reprints	694.90	
	<hr/>	
	\$6,253.86	
	Liabilities	
Defense fund for 1915 collections	\$ 156.00	
Worth January 1, 1914	\$6,751.93	
Less loss as shown above	654.07	6,097.86
	<hr/>	<hr/>
		\$6,253.86

EXHIBIT D.
Society Expense.

January—	
7 F. C. Warnshuis, postage	\$ 15.00
24 F. C. Warnshuis, January salary	62.50
24 West's Drug Store, postage	10.00
24 West's Drug Store, January rent	7.50
24 Barlow Brothers, binding Journals	30.00
24 Fox Typewriter Co., typewriter ribbon	1.00
	<hr/>
	\$126.00
February—	
9 Miss Taylor, stenographer January	\$ 25.00
9 West's Drug Store, February rent	7.50
9 West's Drug Stores, postage	5.00
27 Miss Taylor, February salary	25.00
27 West's Drug Store, postage	15.00
	<hr/>
	\$77.50
March—	
7 F. C. Warnshuis, February salary	\$ 62.50
7 West's Drug Store, March rent.	7.50
	<hr/>
	\$70.00

April—	
1 J. S. Crosby Co., Bonds, Warnshuis & Welsh	\$ 15.00
1 Tisch-Hine Co., stationery	13.00
1 Miss Taylor, March salary	25.00
1 West's Drug Store, April rent	7.50
1 West's Drug Store postage mailing certificates	20.00
1 F. C. Warnshuis, March salary	62.50
1 Funk & Wagnels, dictionary	10.72
15 West's Drug Store, certificate postage....	15.00
15 Miss Taylor, stenographer April 1-15....	12.50
	<hr/>
	\$181.22

May—	
1 F. C. Warnshuis, April salary	\$ 62.50
1 Miss Taylor, salary April 15-30	12.50
1 West's Drug Store, May rent	7.50
1 West's Drug Store, postage	10.00
1 A.M.A. 1914 directory	7 00
	<hr/>
	\$99.50

June—	
4 Miss Taylor, May salary	\$ 25.00
4 F. C. Warnshuis, May salary	62.50
4 West's Drug Store, June rent	7.50
4 F. C. Warnshuis, Atlantic City A.M.A.	75.00
4 West's Drug Store, postage	5.00
	<hr/>
	\$175.00

July—	
2 West's Drug Store, July rent	\$ 7.50
2 Miss Taylor, stenographer	25.00
2 F. C. Warnshuis, June salary	62.50
2 West's Drug Store, postage	15.00
	<hr/>
	\$110.00

August—	
6 F. C. W., long distance telephones ..	\$ 3.90
6 W. B. Saunders Co., medical dictionary	5.00
6 Miss Taylor, July salary	25.00
6 West's Drug Store, August rent	7.50
17 W. H. Shultus, auditor one year	46.70
26 West's Drug Store, postage	15.00
26 Wilfrid Haughey, annual meeting expense	3.25
	<hr/>
	\$106.35

September—	
3 G. R. Typewriting Co., delinquent members and notice of meeting	\$ 2.50
3 Powers & Tyson, 3000 envelopes	7.05
3 Miss Taylor, August salary	25.00
3 West's Drug Store, postage	10.00
3 West's Drug Store, September rent	7.50
12 Miss Gilbert, annual meeting reg. clerks	27.50
12 Hotel Downey, annual meeting invited guests and secretaries dinner	20.80
12 F. C. Warnshuis, annual meeting expense	9.76
30 F. C. Warnshuis, July-Aug.-Sept. salary	187.50
	<hr/>
	\$397.61

October—	
2 Dr. B. A. Shepard, Ann. Meet. Sect. Ex.	\$ 3.50
2 Whitehead-Hoag Co., annual meeting secretary badges	42.29
2 C. B. Fulkerson, Ann. Meet. Section Ex.	3.25
2 F. C. W. Ann. Meet. Exp. and Teleg.	3.40
2 Miss Taylor, September salary	25.00

2 West's Drug Store, October rent	7.50
2 West's Drug Store, postage	5.00
9 Ada B. Shier, annual meeting reporter	11.00
9 Mrs. McIntyre, reporter surgical section	5.00
9 Mattie Linderman, eye section	7.50
9 Miss Parnoll, surgical section	2.50
9 Miss McCarthy, gynecology section	7.50
9 Tradesman Co., annual meeting programs	36.00
31 A.M.A. membership campaign	136.00
31 Miss Taylor, October salary	25.00
31 West's Drug Store, November rent	7.50
31 F. C. Warnshuis, October salary	62.50
31 West's Drug Store, October postage	10.00
	<hr/>
	\$400.44

November—

26 West's Drug Store, postage	\$ 10.00
26 Miss Taylor, November salary	25.00
26 West's Drug Store, December rent	7.50
26 F. C. Warnshuis, November salary	62.50
	<hr/>
	\$105.00

December—

14 Powers & Tyson Printing Co., members report blanks	\$ 14.50
14 Miss Taylor, December salary	25.00
14 F. C. Warnshuis, December salary	62.50
14 Tisch-Hine Co., supplies	62.76
	<hr/>
	\$164.76

EXHIBIT E.
Journal Expense.

January—

7 F. C. Warnshuis, postage	\$ 15.00
24 F. C. Warnshuis, January salary	62.50
24 West's Drug Store, January rent	7.50
24 Bigelow Binder Co., Journal binders ...	6.48
24 Addressograph Co., addresses .....	.41
24 G. R. Typewriting Co., 600 form letters ..	2.60
24 U. S. Press Clipping Bureau, news clip. ..	3.50
24 Printers Ink Co., subscription to	2.00
24 W. M. Palmer Co., mailing Jan. Journal ..	15.63
	<hr/>
	\$115.62

February—

9 Miss Taylor, January salary	\$ 25.00
9 Tradesman Co., January Journal	544.92
9 West's Drug Store, February rent	7.50
9 West's Drug Store, postage	5.00
27 W. M. Palmer, P M., Feb. mailing	12.18
27 U. S. Press Clipping Bureau, news items ..	3.50
27 Miss Taylor, February salary	25.00
	<hr/>
	\$623.10

March—

7 F. C. Warnshuis, February salary	\$ 62.50
7 West's Drug Store, March rent	7.50
7 Tradesman Co., February Journal	314.32
	<hr/>
	\$384.32
7 Less \$40.00 for 5 cuts sold	\$344.32

April—

1 W. M. Palmer, P. M., postage Journal \$..	16.81
1 U. S. Press Clipping Bureau, news items ..	3.50
1 Miss Taylor, March salary	25.00
1 West's Drug Store, April rent	7.50

1 F. C. Warnshuis, March salary	62.50
3 Tradesman Co., March Journal	493.50
15 W. M. Palmer, P. M., Journal postage ..	16.35
15 Miss Taylor, April 1-15 salary	12.50
	<hr/>
	\$637.66

May—

1 F. C. Warnshuis, April salary	\$ 62.50
1 F. C. Warnshuis, Miss Hill balance a/c ..	57.50
1 Miss Taylor, April 15-30 salary	12.50
1 West's Drug Store, May rent	7.50
1 Tradesman Co., Journal wrappers	120.25
1 U. S. Press Clipping Bureau, news items ..	3.50
1 G. R. Typewriting Co., revising mailing list for P. O. Inspector	10.70
	<hr/>
	\$274.45

June—

4 Tradesman Co., April and May Journal ..	\$860.00
4 W. M. Palmer, P. M., postage May-June ..	27.51
4 Miss Taylor, May salary	25.00
4 F. C. Warnshuis, May salary	62.50
4 West's Drug Store, June rent	7.50
	<hr/>
	\$982.51

4 Less \$2.00 for Journals sold

July—

2 West's Drug Store, July rent	\$ 7.50
2 Miss Taylor, June salary	25.00
2 F. C. Warnshuis, June salary	62.50
2 Tradesman Co., June and July Journals ..	668.30
	<hr/>
	\$763.30

August—

6 Postmaster, Journal postage	\$ 11.17
6 G. R. Typewriting Co., revising mail. list ..	1.89
6 West's Drug Store, August rent	7.50
6 U. S. Press Clipping Bureau, news items ..	10.50
6 Miss Taylor, July salary	25.00
17 Tradesman Co., August Journal	351.00
	<hr/>
	\$407.06

September—

3 Postmaster, Aug. and Sept. Journals ..	\$ 27.15
3 U. S. Press Clipping Bureau, news items ..	3.50
3 Miss Taylor, August salary	25.00
3 West's Drug Store, September rent	7.50
30 F. C. Warnshuis, July-Aug.-Sept. salary ..	187.50
	<hr/>
	\$250.65
30 Less \$1.00 for Journals sold	\$249.65

October—

2 Tradesman Co., September Journal....	\$357.55
2 G. R. Typewriting Co., mailing list	2.02
2 Miss Taylor, September salary	25.00
2 West's Drug Store, October rent	7.50
2 West's Drug Store, postage	5.00
9 A. Griggen, Journal clippings	3.50
9 G. R. Typewriting Co., revising mail. list ..	1.00
9 Tradesman Co., October Journal	331.98
31 Miss Taylor, October salary	25.00
31 West's Drug Store, November rent	7.50
31 F. C. Warnshuis, October salary	62.50
31 Postmaster, October Journal	15.25
	<hr/>
	\$843.80
31 Less engravings sold	\$836.55

November—	
9 Tradesman Co., October Journal	\$266.15
9 Postmaster, postage November Journal..	11.81
9 Miss Taylor, November salary	25.00
9 West's Drug Store, December rent	7.50
9 F. C. Warnshuis, November salary	62.50
	<hr/>
	\$372.96
December—	
14 Tradesman Co., December Journal	\$373.04
14 Postmaster, December Journal postage ..	14.65
14 A. Griggen, news items	7.00
14 Miss Taylor, December salary	25.00
14 F. C. Warnshuis, December salary	62.50
	<hr/>
	\$482.19

EXHIBIT F.

Council Expense.

January—	
21 Wayne County Medical Society Club, Councilors' dinner	\$ 9.40
21 Postal Hotel Co., DuBois, Welsh, F. C. W.	30.75
21 Miss Taylor, traveling expenses and stenographer to Council	34.53
21 W. T. Dodge, Council expense	18.35
21 F. C. W. Council meeting expense	13.18
	<hr/>
	\$106.81
February—	
27 W. J. DuBois, councilor's expenses	\$ 21.71
27 B. H. McMullen, councilor's expenses ..	10.00
	<hr/>
	\$ 31.71
June—	
15 A. P. Biddle, councilor's expense	\$ 2.75
	<hr/>
	\$ 2.75
December—	
14 A. P. Biddle Publishing Com. expense..	\$ 2.84
	<hr/>
	\$ 2.84

EXHIBIT G.

Secretary Expense Account.

March—	
7 F. C. W., Muskegon-Battle Creek	\$ 11.29
	<hr/>
	\$11.29

June—	
4 F. C. Warnshuis, Gratiot Co. meeting ..	\$ 3.64
	<hr/>
	\$ 3.64
July—	
7 F. C. Warnshuis, Lansing expense	\$ 7.00
7 F. C. Warnshuis, A.M.A. meeting expense	35.00
	<hr/>
	\$ 42.00
August—	
17 F. C. Warnshuis, Benzie Co. expense ..	\$ 10.34
	<hr/>
	\$ 10.34
October—	
9 F. C Warnshuis, Port Huron meeting	\$ 11.71
	<hr/>
	\$ 11.71

It is thus revealed that in dollars and cents the year just closed witnesses a financial loss of \$654.07 and that our net present worth on December 31, 1914, was \$6,253.86. Explanatory thereof I direct your attention to the fact that during the year \$136.00 was paid out for the work of the canvassers who visited a number of our county societies. *The Journal* sustained a loss of some \$400.00 in canceled advertising contracts occasioned by the universal business depression, while its cost of production was increased abruptly by the increased cost of material supplies. It must also be noticed that by reason of our increased organization activities and the work carried on by this office that its actual expenses increased in proportion to our numerical strength. The work also of completing the plans of placing our records and files in permanent form occasioned extraordinary expense. Some \$200 of uncollected assets were also charged off our books.

However, I am not inclined to subscribe to the sordid viewpoint arising from a dollar and cents standard. When we are able to declare that we are now on a sound business basis and that the past year witnessed the completion of the Society's attainment of a high water mark of efficiency and influence the financial loss of some \$654.07 may well be appraised as a commendable investment. Especially is this true when the coming year promises a recoupment and increase in our net financial worth.

For your further enlightenment I append herewith the following comparative statement for the past ten years:

EXHIBIT—Comparative Statement Last Few Years.

Receipts.						
	Dues	Adv.	Misc.	Reprints	Interest	Total
1904	\$3,283.50	\$2,025.93	\$36.18			\$5,344.60
1905	3,604.52	2,005.30	16.32			5,626.14
1906	3,290.29	2,297.78	25.81			5,613.88
1907	3,885.75	2,158.92	26.55			6,071.22
1908	4,033.50	1,786.53	16.00		\$ 27.68	5,863.71
1909	4,034.18	2,073.71	16.94		48.61	6,174.44
1910	3,683.30	2,016.97	43.76		86.69	5,830.66
1911	4,269.65	2,122.59	18.38	\$156.00	301.66	6,768.28
1912	4,108.00	1,851.92	65.85	184.25	190.35	6,400.37
1913	4,208.00	3,045.08	00.00	310.75	146.23	7,907.66
1914	4,745.37	2,910.42	00.00	1,010.40	291.35	8,957.54

Disbursements.

	Journal	State Soc.	Reprints	Profit	Total
1904				\$119.69	\$5,344.60
1905	\$4,265.26	\$ 772.42		588.46	5,626.14
1906	4,092.94	1,499.32		21.62	5,613.88
1907	4,193.06	924.71		853.45	2,071.22
1908	4,226.98	941.77		694.96	5,863.71
1909	4,263.45	739.62		1,171.37	6,174.44
1910	4,182.41	1,686.51		(loss) 38.26	5,830.66
1911	4,219.65	1,335.93	\$350.81	675.67	6,768.28
1912	3,821.90	1,249.74	423.99	904.74	6,400.37
1913	4,325.97	2,406.93	416.50	758.26	7,907.66
1914	6,087.37	2,236.47	1,287.77	654.07	8,957.54

THE JOURNAL.

Years	No. Pages	Per Cent Adv.	Total Cost	Cost Per Page	Adv. Received	Cost Per Member	No. Mem.
1902	248	21					
1903	826	23					1,653
1904	799	28			\$2,025.92		1,777
1905	870	28	\$4,265.26	\$4.89	2,005.30	\$1.27	1,700
(Change of Editor.)							
1906	942	28	\$4,096.94	\$4.34	\$2,297.78	\$1.97	1,873
1907	904	28	4,193.06	4.64	2,158.92	1.07	1,892
1908	857	24	4,226.98	4.93	1,786.53	1.29	1,883
1909	836	25	4,263.45	5.10	2,073.71	1.21	1,962
(Change of Editor.)							
1910	894	21	\$4,182.41	\$4.67	\$2,016.97	\$1.00	1,979
1911	928	23	4,219.65	4.55	2,122.59	.97	2,158
1912	1,042	17	3,821.90	3.66	1,851.92	.87	2,168
(Change of Editor.)							
1913	1,190	23	\$4,325.97	\$3.63	\$3,045.08	\$.58	2,205
1914	998	29	6,087.37	6.09	2,910.42	1.34	2,385

MEMBERSHIP.

The membership enrollment on December 31, 1913 was 2,205. The enrollment on December 31, 1914 was 2,385, a net increase of 180 members. The members lost by reason of death, removal and suspension was 68, making a net increase in new members of 248. We may now claim a membership of 72 per cent. of the eligible physicians of the state; an increase of 8 per cent. over last year.

Alpena	15	Grand Traverse	21
A. C. E.	19	Gratiot	30
Antrim		Hillsdale	22
Charlevoix		Houghton	47
Emmet		Huron	20
Barry	6	Ionia	22
Bay	52	Ingham	74
Benzie	6	Isabella-Clare	14
Berrien	28	Jackson	50
Branch	15	Kalamazoo	142
Calhoun	83	Kent	148
Cass	12	Lapeer	25
Cheboygan	7	Lenawee	40
Chippewa	25	Livingston	15
Clinton	22	Macomb	28
Delta	22	Manistee	13
Dickinson-Iron	9	Marquette	39
Eaton	31	Mason	4
Genesee	83	Mecosta	19
Gogebic	17	Menominee	15

Midland	5	Saginaw	68
Monroe	24	Sanilac	14
Montcaln	24	Schoolcraft	8
Muskegon	34	Shiawassee	30
Newaygo	8	St. Clair	52
Oakland	45	St. Joseph	21
O. M. C. O. R. O... ..	18	Tri County	24
Ontonagon	9	Tuscola	38
Osceola-Lake	5	Washtenaw	65
Ottawa	32	Wayne	618
Presque Isle	3		
			2,385

The following societies have an enrollment of more than fifty members: Bay, Calhoun, Genesee, Ingham, Jackson, Kalamazoo, Kent, Saginaw, St. Clair, Washtenaw and Wayne. The following societies have a membership of ten or less: Antrim, Barry, Benzie, Cheboygan, Dickinson-Iron, Mason, Midland, Newaygo, Ontonagon, Osceola-Lake, Presque Isle, Schoolcraft.

This latter state of affairs merits your consideration and the devising of plans whereby the members of these latter organizations may take on new life and increase their membership where possible or become affiliated with adjoining county societies. It is difficult to maintain active interest when a unit is composed of but few members.

During the past week your secretary, accompanied

by Councilor McMullen, attended a meeting of the physicians of Antrim, Charlevoix and Emmet counties. A thorough canvass of local conditions was made and it was found that transportation facilities presented the greatest obstacles to organized effort. A union of these three county societies was perfected and it is our opinion that this step will be the means of creating and maintaining a strong, active society in that district.

To ascertain the condition of our component organizations a questionnaire was mailed during December to all the County Secretaries and the following statistics (see page 139) are compiled from the replies received.

This exhibit causes the following facts to stand out:

1. Ten societies with a total enrollment of eighty-seven members have held no meetings during the past year. They are Antrim, Barry, Charlevoix, Cheboygan, Isabella, Midland, Mecosta, Newaygo and O.M.C.O.R.O.

2. Thirteen societies failed to report, although twice requested.

3. The average attendance of all the societies reporting was eighteen for the thirty-eight societies that held meetings.

4. The causes given for no meetings or as obstacles to more successful meetings were: Lost interest five; apathy twenty; factions five; transportation difficulties four; no comment three.

5. The banner societies are: Alpena, Berrien, Bay, Calhoun, Genesee, Gratiot, Grand Traverse, Houghton, Montcalm, Ottawa, Saginaw, Tri County, Tuscola, Wayne, each of which had fourteen or more papers presented at its meetings.

This does not imply that there are no other societies holding excellent meetings but rather that in the above counties there is greater evidence of enthusiasm and exhibition of society energy.

6. Lastly, that some means be devised to engender new life in certain of our component societies, some of which are maintained only for the defense features accruing to members of our State Society.

It is wholly impossible for your Secretary to visit every county society. Arrangements should be made whereby each society should receive at least two visits from officers at the State Society during each fiscal year. During the past year I have visited the following societies: Antrim, Benzie, Calhoun, Tri County, Huron, Ingham, Gratiot, Muskegon, Kalamazoo, Emmet, Charlevoix, Ottawa. President Kiefer represented our State Society at the annual meeting of the Upper Peninsula societies that was held at Houghton in August.

I would again request permission to entertain our County Secretaries with a dinner coincident with our next annual meeting.

It must ever be borne in mind and impressed upon every member that mere membership is not all sufficient. Organized effort has vouchsafed most of our present attainments and the prestige which we now enjoy. By the exhibition of a concentrated effort of co-operation we may increase this individual and collective influence and ability to our future advantage. Thus will there result a compact organization, membership in which will be so valuable an asset that no professional brother can afford

to hold aloof from or be other than an active worker. Affiliation with our organization is now valuable and the very near future is bound to witness a notable increase in this asset if we but remain aggressively active.

ANNUAL MEETING.

The Forty-ninth Annual Meeting, that was held in Lansing, in points of attendance, papers read and the interest exhibited may well be appraised as the most successful meeting our organization has ever held.

The House of Delegates, by resolution, has instructed the Council to provide for the commemoration of the Fiftieth Anniversary of the Society coincident with its Fiftieth Annual Meeting that is to be held in Grand Rapids this coming fall.

Our past experience has demonstrated that it is wholly of no avail to employ any but experienced stenographers for reporting the transactions of the Society's several sessions and the discussions that arise in the scientific sections. This last year we employed ordinary commercial stenographers with the result that the copy turned over consisted of a conglomerate mass that was of but little or no value. To employ experienced convention reporters will entail an expenditure of three hundred to four hundred dollars. It is respectfully requested that you instruct your Secretary as to the course he is to pursue in this matter for our next meeting.

It devolves upon the Council to determine the time for the holding of our Fiftieth Annual Meeting and the method of fittingly commemorating this event in our history.

THE JOURNAL.

The Journal, I feel must have been appraised by every one of our members and its value thus determined. I do not propose to submit anything further thereon but statistical data and constructive criticism.

	Vol. XII.	Vol. XIII.
Original articles	122	137
Total pages	1,190	998
Advertising pages	272	264
Number editorials	39	58
Number illustrations	124	176
No. County Society reports.....	136	98
Subscription receipts	\$2,210.65	\$2,385.37
Net advertising receipts	3,045.08	2,910.42
Total cost	4,325.97	6,087.37
Cost per page	3.63	6.09
Cost per number .....	.58	1.34

A close perusal of the foregoing statistics will impart instructive information.

It will be noted that financially *The Journal* expenses were \$791.58 over and above its receipts. This deficit was occasioned by cancellation of advertising contracts which resulted from the "war scare." Indications point to an increase of advertising revenue of \$500.00 during the coming year. It was necessary to place our publication upon a higher standard, and having gained a reasonable increase in prestige and value we are bound to realize on our investment made during the past year and are justified in looking forward to a year of greater financial prosperity. It is gratifying to note the opinion in which our publication is held by the profession at large and by the business public who are recognizing it as a valuable medium. The policy pursued is expressed

ANSWERS FROM QUESTIONNAIRE.

County	No. Drs.	No. Mem.	Not Mem.	% Mem.	How Often Meet	Guests	Av. Att.	Papers	Value of Meets	Obstacles
Alpena	18	15	3	81	Mo.	3	8	8	Good	None
Antrim	Society dead. Nothing done for over year.									
Barry										
Bay										
Benzie	11	6	5	55	Quart.	3	5	4	Little Value	Bad Roads
Berrien	82	29	39	42	Mo.	5	16	12		Apathy
Branch	33	19	14	57	Quart.	0	10	8	Rather Indiffer.	Inertia
Calhoun	105	96	9	91	Mo.	10	70	20	Excellent	Flourishing
Cass										
Charlevoix		16			Quart.	0	4-8	0		Transportation
Cheboygan										
Chippewa	35	27	8	77	Mo.	0	8	4		Lack of interest and harmony
Clinton	29	22	7	80	Bi-Mo.	1	8	8	Satisfied	Apathy
Delta										
Dickinson										
Eaton	47	28	19	61	Quart.	5	12	5	Valuable	33⅓% interested
Emmet	16	11	5	70	Mo	0	8	6	No Value	Non-attendance
Genesee	90	83	7	93	Semi-Mo.	13	25	23	Satisfactory	Reluctance to participate
Gogebic	18	14	4	77	Yearly	0	4-5	0	Too small to arouse interest	Transportation
Grand Traverse	27	22	5	81	Mo.	1	12	18	Valuable	Apathy
Gratiot		30			Mo.				Profitable	Indifference
Hillsdale	42	23	19	54	Quart.	0	12		Valuable	Apathy
Houghton	65	46	19	71	Mo.	5	15	27	Scientific and social	Apathy
Huron										
Ingham	125	75	50	60	Semi-Mo.	9	20	11	Profitable	
Ionia	45	23	22	51	Mo.	5	16	5	Profitable	Do not realize value of meet.
Isabella	16	16	0	100	Quart.	0	0	0	No attention. Members for defense only.	Absence of local officers activity
Jackson	65	52	13	83	Quart.	2	25	2		
Kent	172	159	23	92	Semi-Mo.	8	51	24	Good	Apathy
Kalamazoo	177	157	20	89	Semi-Mo.	33	49	69	Indispensable.	Apathy. Jealousy
Lapeer	31	27	4	87	Quart.	6	10	8	Satisfied	Difficult to fill programs
Livingston										
Macomb										
Manistee	21	15	6	71	Mo.	1	10	10	Very Valuable	Apathy. Indiffer.
Mason										
Mecosta	16	12	2	87	No Meets.	0	0	0		Factionalism.
Menominee	15	12	3	80	Mo.	0	12	24	Excellent	No obstacles.
Midland	9	8	1	88	No Meets.	0	0	0		Apathy
Monroe	29	23	6	80	Quart.	6	10	11	Valuable	Bashful
Montcalm	37	26	12	70	Quart.	0	12	12	Helpful	Apathy on part of some.
Muskegon	52	36	16	70	Bi-Mo.	9	14	20	Valuable	Lack of members
Newaygo										
Oakland										
O.M.C.O.R.O.	25	18	7	72	Bi-Mo.	0	4	0	Good for those who attend.	Inertia
Ontonagon	12	7	5	50	Bi-Mo.	0	5	6	Profitable	Lack of members
Osceola										
Ottawa	48	33	15	69	Mo.	6	11	28	Inestimable	Lack attention.
Presque Isle										
Saginaw	92	68	24	73	Mo.	10	30	16	Valuable	Society prosper.
Sanilac	37	14	13	38	Quart.	0	4	3	No value	Apathy
Shiawassee	41	31	10	75	Mo.	4	12 to 18	4	Valuable	Inertia
St. Clair	60	50	10	83	Mo.	6	24	8	Questionable	Factionalism
St. Joseph	36	20	16	55	¾-year	2	9	4	Not as valuable as would like	Apathy
Tri County	32	24	8	75	Mo.	3	9	14	Satisfactory	Apathy
Tuscola	35	35	0	100	Bi-Mo.	12	15	14	Valuable	Society flourish.
Washtenaw	105	80	25	76	Quart.	2	35	6	Valuable	Transportation.
Wayne	1,150	735	415	64	Weekly	20	75	43	High	Apathy

in each issue and your instructions regarding our future plans are requested.

Your editor is having submitted to him the papers and transactions of several special medical organizations existing within our state with the request that we publish these proceedings in specially created departments. To comply with all these requests would result in crowding out our original articles and reduce us to a publication composed solely of departments. Your instruction in this is sought in order that an impartial proposition may be made to each such special medical organization.

The Journal is being published under contract with a Grand Rapids printing firm at a price that is lower than available from any other source, everything else considered. This contract expires in September, 1915.

Advertisements.—I have editorially harped upon this subject in practically every issue so that I am compelled to refrain from submitting further comment. It is a vital subject and determines our publication's character and standing. Our members must constantly remember that these advertiser's merit their preference and I trust the individual members of the Council will not neglect to exercise their influence in securing this co-operation. But one thing can cause *The Journal* to recede and that is decreased advertising revenue due solely to non-patronage of our advertisers. The responsibility rests with the members individually. During the past year some \$280.00 was lost by reason of cancellation of contracts because the advertisers had received no returns upon their investment with us. This does not include the some \$400.00 worth of cancellation from drug firms and manufacturers occasioned by the "war scare."

We have admitted none but "honest" ads and sincerely commend such a policy for future guidance.

MEDICAL DEFENSE.

A total of \$2,381.50 has been collected for the Defense League and paid to the Treasurer whose receipts I hold.

CONCLUSIONS.

During the year, as per your instructions, the Constitution and By-Laws, minutes and records have all been transcribed and are now in permanent form for future preservation.

Finally permit me to note that this office has not been engaged chiefly in the keeping of records. We have been daily active in rendering assistance and suggestions to our members and county officials. Hardly a day passes but what we answer from two to ten letters of inquiry. We are aiming to make the office a professional clearing bureau for the state where information may be disseminated to all.

All of which is respectfully submitted.

F. C. WARNSHUIS, Secretary.

The Chairman referred the Report of the Secretary to the various committees; that portion relating to county societies to the Committee on County Societies; that portion relating to the finances of the Society to the Committee on Finance, and that portion relating to *The Journal* to the Publication Committee.

The Report of the Defense League was presented by Dr. Tibbals as follows:

MEDICO-LEGAL COMMITTEE REPORT.

To The Council Michigan State Medical Society:

Gentlemen: Summarizing the work of The Medico Legal Committee for the five years just ended, we beg to state that a total of 119 cases have been reported to us, all but two or three being cases of alleged civil malpractice. The average of about one case per year for every hundred members continues. In seventy-two cases suit has been started, twenty-six have reached trial and been won, eight cases have been settled, without trial, for small amounts, the largest \$700, usually because the doctor preferred to pay the small sum rather than undergo the worry and loss of time entailed by trial. But one case has been finally lost, when handled by us. Except for the cases reported during 1914, regarding most of which no conclusions can yet be drawn, but few of the cases remaining on the court dockets are expected to reach trial. They still survive but plaintiffs are content to leave them alone and so are we. We have paid out for attorneys' fees and other legal expenses a total of \$6,231.01. We have been fortunate in that we have had, so far, to defray the expense of but one Supreme Court appeal, and have but one case in appeal to be paid for. With the same good fortune for the next five years, we should have ample funds for all cases arising, as we close 1914 with a credit balance of about \$4,000.

The fact that many of our members carry insurance policies aids us, financially, for the insurance company is obligated to defend it's policy holder, and we prefer in such cases to aid the defense rather than to assume it. However, we stand ready to do all our By-Laws allow us to do for any member, regardless of any insurance policy he may have.

We feel that the strongest part of our work is with the profession, locally and generally, in an educational way. With the exception of perhaps one case in a hundred, where the doctor may have been temporarily incompetent or accidentally negligent, we believe that all these cases are either blackmail or an attempt to hold the medical profession to a standard of perfection not attained by any other class of business or professional men. Just as fairly sue the minister for an unhappy marriage, the lawyer for mistrial of a legal case or the shoe man because the shoes wear out too soon as to hold the doctor blameworthy for all results unsatisfactory to the patient. We are but fallible, we may make mistakes or errors of judgment, we certainly do some things differently from the way some other man might do them, but we are all doing our best to obtain results satisfactory to ourselves and the patient. This being true, and it is, why should any doctor aid and abet suit against another? Especially why should he take on his shoulders the sole responsibility for an adverse verdict, since but for medical testimony in favor of the plaintiff no case of malpractice is proven? Every doctor ought to weigh carefully his duty to himself and to his profession as against the theoretical duty to society in general before taking the stand against a brother practitioner and then, if compelled to testify, tell the truth, which will be that he *does not know*. He *can not* know for he did not treat the patient, hence has no clear conception of the conditions or the difficulties encountered. Unless a man has in some way intimated, beforehand, his willingness to sup-

port the position of the plaintiff, he will seldom be forced to testify, for attorneys are not looking for unwilling witnesses. When the profession stop supporting malpractice suits malpractice suits will cease, and not until then. When 99 are blackmail there is a strong probability that the hundredth man got out of a bad box as well as any of us would have done under identical circumstances, hence he should be given the benefit of the doubt. Twenty-five cases have been reported during 1914, in thirteen of which suit has been started. Some of these will undoubtedly reach trial. A striking fact is the report of five cases from the upper peninsula, all within a month or so, attributable to the financial stringency and to the lessened litigation resultant from the Liability Act. Ten of our 1914 cases are fracture cases. The fact that forty-five of our 119 cases are fracture cases shows the prevalence of suits for this cause and the advisability of extreme care in diagnosis and treatment of this class of injuries. Again we fail to see why any doctor with any experience in handling fracture cases should testify that a bad result is evidence of improper treatment for he must know the impossibility of maintaining reposition in many cases.

We hope that this work has demonstrated its value to the profession and that the Medico Legal Committee and its legal department may become even more efficient with added experience.

Respectfully submitted,

F. B. TIBBALS,
C. B. STOCKWELL,
E. C. TAYLOR,
CHAS. W. HITCHCOCK,
ANGUS McLEAN,

The report of the Treasurer was read by the Secretary and referred to the Finance Committee.

TREASURER'S REPORT.

Council of the Michigan State Medical Society:

This is to certify that the following funds are in my hands:

Certificate of Deposit	\$3,350.05
Chamberlain Hardware Co. Bonds	2,000.00
Cash in G. R. Sav. Bank (Checking a/c) ..	208.91
Account Rec., as per Secretary's ledger....	694.90

Total\$6,253.86
All of which is respectfully submitted,

D. EMMETT WELSH, Treasurer.

DEFENSE FUNDS PAID DR. WELSH.

To the Council of the Michigan State Medical Soc.
Gentlemen: The following will convey to you the amount of funds on hand in the Defense Fund for the year ending December 31, 1914:

March 24	\$942.50
April 3	548.00
May 1	618.00
June 4	81.75
July 2	61.00
August 17	24.00
October 10	73.50
Nov. 9	14.00
December 31	18.75
	<hr/>
	\$2,381.50

Certificate of Deposit, Commercial Savings	
Bank, Grand Rapids	\$1,500.00
Certificate of Deposit, Commercial Savings	
Bank, Grand Rapids	639.14
Checking account at Peoples State Bank,	
Detroit, Balance	1,765.73

Total\$3,904.87

Respectfully submitted,
D. EMMETT WELSH, Treasurer.

A recess was then taken to give the various committees time to prepare their reports.

The meeting was again called to order and Dr. McMullen, Chairman of the Finance Committee, reported that his committee found the Report of the Secretary entirely satisfactory regarding the finances of the Society and that they had no recommendations whatever to make.

Dr. Biddle, supported by Dr. DuBois, moved that the report of the Finance Committee be accepted.
Carried.

Dr. A. M. Hume, Chairman of the Publication Committee rendered the following report:

Our report will be upon the Report of the Secretary-Editor comprising all that has been referred to this Committee.

The Committee would again like to call attention to the fact that one reason for the decrease in advertising income has been the fact that the *Journal* subscribers do not patronize the advertisers.

There has been received by our Secretary-Editor many commendations on our *Journal* as to the quality of the matter published and everything connected with it. He has received from very many of the county secretaries commendations along this line. Commendatory comment has also been received from without the state.

I think this is very gratifying to the members of the Council.

The important matter that we have to submit to the Council, and upon which this Committee would make a recommendation, has come from a meeting that the Publication Committee held several months ago. It has been customary to publish the Transactions of the Clinical Society of the University of Michigan in a special department in *The Journal*, giving to the Clinical Society two hundred and fifty reprints of the entire transactions each month free. This matter was taken up as it did not seem to the officers of the Clinical Society a fair arrangement that they should be charged for reprints, and the Secretary-Editor said that we could not afford to give (250) reprints of the transactions free. You will see that the deficit for reprints for the entire year was \$277.00. The Committee took this under consideration and a decision was arrived at temporarily, of course subject to being referred to the Council at this meeting. That the publication of the Clinical Transactions added greatly to the value of *The Journal* and would really add to the circulation of *The Journal* was admitted and the decision was reached that they should be continued as heretofore. The Clinical Society to pay for the 250 reprints, or such number as they might desire at the actual cost. It seems that there was a little misunderstanding at the time as to the price which should be made upon reprints to individual authors who

might wish reprints of their papers and as to the price they should pay for some. I think I am correct in stating that the Committee at that time understood that these also were to be furnished at the A.M.A. actual cost under the A.M.A. schedule but the Secretary-Editor did not so understand it. That matter we have considered now and I want to explain this, that the price that we get from our publishers in Grand Rapids on reprints is considerably in excess of that of the schedule of the A.M.A., but we can take into consideration this, that the quality of the paper furnished is better than that of the A.M.A. and all of these reprints have covers. The Committee would recommend: That the coming year the same arrangements be continued with the Clinical Society as to the publication of their Transactions in *The Journal*, giving them a department and that two hundred and fifty reprints, and also reprints to the authors, be furnished at the A.M.A. prices and in A.M.A. style, which would mean a cheaper quality of paper and without cover. This will not be the full cost of furnishing these reprints under our present arrangement but the Committee believes that it will not materially increase the deficit, and it would be the recommendation of the Committee that that arrangement be made with the Clinical Society.

There is another phase of this matter and that is that since the Clinical Society began the publication of its proceedings, I understand from the Secretary-Editor, that at least four other medical societies have asked for practically the same thing. They are all societies of specialists, and your Committee would recommend that to all societies or organizations in the state dealing with general medical subjects, not societies of specialists, that the same terms be extended to them that are extended to the Clinical Society, but that to any organization not representing general practice or to any society of specialists, that they be permitted to publish their transactions in *The Journal* simply by paying the cost which would include the increased number of pages at about \$4.50 per page exclusive of the cost of cuts, and that they also, if they wish reprints, would pay full cost of reprints. Your Committee would make this recommendation.

I believe we have no other recommendations to make.

A. M. HUME, Chairman.
W. J. DuBois,
A. P. BIDDLE,
W. J. KAY.

Dr. Biddle, supported by Dr. McMullen, moved that we adopt the report of the Publication Committee.

Carried.

The following report of the Committee on County Societies was read by Dr. Church:

REPORT OF COMMITTEE ON COUNTY SOCIETIES.

We deplore the fact that several County Societies have held no meetings during the year; this may in some instances be due to the negligence on part of the president and secretary. Therefore, we would recommend that only officers be elected who are live members, and if no meetings are called, that the Secretary of the State Society request the County Society Secretary to call the meetings regularly.

The Committee thoroughly endorses the action of Councilor McMullen and Secretary Warnshuis in adjusting differences in Antrim, Charlevoix and Emmet counties, consolidating the same into one component society. We believe that in the union of these three counties it will be the means of maintaining a strong and active society in that district. We commend the reports made by the County Societies to the State Secretary which has given the Society a comprehensive idea of the conditions present.

Realizing that an increased stimulus is generated by a visit of the state officers or councilors to the County Society meetings, we would recommend that each County Society invite two of the officers of the state organization to visit them at least once a year.

In view of the time required and the great expense involved, we would not consider it advisable to authorize our Secretary to attend the meeting of the A.M.A. at San Francisco in 1915. It is the sense of the Committee that the delegates to the A.M.A. meetings at San Francisco use their influence towards getting the 1916 meeting to be held at Detroit.

We do not think it advisable to change the time of meeting of the House of Delegates to the evening before the general session which would conflict with the meeting of the Council.

We would recommend that the Council give a dinner to the County Secretaries on the evening before the opening of the annual session.

ROCKWELL,
BULSON,
BURKLAND,
CHURCH.

Committee.

Moved by Dr. Hume that the report of the Committee on County Societies be adopted.

Supported by Dr. McMullen and carried.

Dr. Hume moved as an amendment to the Report that that portion referring to the Secretary attending the A.M.A. meeting at San Francisco be stricken out.

Supported and carried.

Dr. DuBois was called upon to give an outline of the plans that had been made in reference to the celebrating of the Fiftieth Anniversary of the Society at its next Annual Meeting to be held in Grand Rapids next September. Dr. DuBois said that the matter had been talked over and they thought the best thing to recommend would be to devote the evening of the first day's session to the history of the State Society for the past fifty years, followed by a paper or address by some well known man. That the second evening be taken up in a public meeting by another address by some well known man, possibly followed by a smoker.

Dr. Peterson suggested that he give his presidential address the first evening, and to have it include a history of the Society.

Dr. McMullen moved that the arrangement of the program be left to President Peterson, Secretary Warnshuis and Councilor DuBois.

Supported by Dr. Hume and carried.

Dr. Biddle moved that the salary of the Chairman of the Defense Committee be fixed at \$600.00 per year.

Supported by Dr. Seeley and carried.

Dr. Biddle moved that the report of the five year's work of the Medico-Legal Committee be put in pamphlet form and sent to the various county societies.

Supported by Dr. Church and carried.

The election of officers was the next order of business of Dr. DuBois moved that Dr. Warnshuis be again elected as Secretary-Editor.

Supported by Dr. Kay and carried.

Dr. Biddle, supported by Dr. Bulson, moved that Dr. Welsh be again elected Treasurer.

Carried.

Dr. Biddle, supported by Dr. McMullen, moved that the retiring member of the Medico-Legal Committee be re-elected for five years.

Carried.

It was moved and supported that the next meeting of the Michigan Medical Society be held the Wednesday and Thursday of the first week in September.

Carried.

A communication from Dr. Hirschman, Detroit, was read by the Secretary in reference to the A.M.A. holding its 1916 meeting in Detroit.

Dr. Biddle moved that the Secretary and President of our Society send a formal invitation to the A.M.A. to meet in 1916 in the city of Detroit.

Supported and carried.

Dr. DuBois moved that the Entertainment Committee for the 1915 meeting of the M.S.M.S. be authorized to pay the actual expenses of such men as they may see fit to bring in for the meeting.

Supported by Dr. Biddle and carried.

Dr. Biddle, supported by Dr. Bulson, moved that the Secretary be authorized to employ stenographers to report the section meetings and the general meetings of the Society.

Carried.

There being no further business to come before the Council the meeting adjourned.

W. T. DODGE, Chairman.

F. C. WARNSHUIS, Secretary.

State News Notes

Gov. Ferris has sent the following appointments to the senate:

Dr. Angus McLean, member of the Detroit Board of Health; Dr. John L. Burkart, Secretary of the State Board of Health; Nelson McLaughlin, member of the State Board of Registration in Medicine; Bruce L. Hayden, member of the Board of Registration and Examination in Osteopathy; Hugh W. Conklin, member of the Board of Registration and Examination in Osteopathy; Ernest M. Gamble, member of the Board of Trustees of the State Sanatorium; Geo. Dumphy, State Veterinarian; Thos. B. Gloster, member of the Industrial Accident Board.

Mason county health week is to be held the first week in February. The following speakers sent by the State Board of Health will be present during the week: Dr. John Burkart, Secretary of the State

Board of Health; D. E. McClure; Prof. Edw. Rich, State Sanitary Engineer and Dr M. L. Holm, State Bacteriologist. In addition it is expected that Gov. Ferris, Drs. Vaughan, Warthin and Peterson, Rev. Caroline Bartlett Crane, and Carol Walton, Secretary of the State Anti-Tuberculosis Association will be in attendance.

Owing to the great need of increased space a movement has been started for the erection of a large addition to the Woman's Hospital and Infant's Home of Detroit.

Dr. W. P. Manton's resignation as president of the medical board, a position he has held for fifteen years, was accepted, and Dr. Nathan Jenks was elected to fill the vacancy. Dr. Manton will remain on the board in an advisory capacity.

Dr. Guy L. Kiefer announces his candidacy for nomination and election as a member of the Board of Regents of the University of Michigan. It is understood on very good authority that he has the support of a large number of the profession of the state as well as other influential citizens, and his nomination and election is confidently looked for. In this event *The Journal* is inclined to believe that a valuable member would be added to the governing board of our State University.

The Tri-County Medical Society have gotten out a very neat booklet giving the program of its meetings for the year 1915. A careful perusal of this announcement causes one to receive an impression that the Tri-County Medical Society will experience a lot of extraordinary scientific meetings.

Dr. E. A. Gourdeau of Ishpeming is confined at the Augustana hospital of Chicago with cancer of the throat. He will not undergo an operation, but the physicians there will give him treatment which they expect will rid him of the disease in three or four months.

After an absence of some eight months Dr. Firth has returned to Cadillac and resumed his practice. Dr. Firth brought with him his bride. He states he has been a husband since the night before Christmas when he married Miss Amy Mandt of Sioux Falls, South Dakota.

Dr. Reuben Peterson, entertained the Council, at a dinner in Ann Arbor on the evening previous to its regular mid-winter meeting. On Wednesday the Council was the guest of Dr. Peterson at luncheon served at the Michigan Union.

Dr. C. G. Darling during the past month has been elected Chief of the Surgical Division of the University of Michigan with full title, we understand, of Professor of Surgery.

Dr. O. E. Herrick, formerly of Grand Rapids, after spending several months at Ann Arbor by way of rest and recuperation, has again relocated in Grand Rapids.

Dr. L. H. Duguid's residence at Custer was destroyed by fire New Year's morning.

Dr. G. W. Lowry, Hastings, who went to the State University Hospital for treatments a month ago on the advice of Dean V. C. Vaughan, has returned to Hastings and is confined to his home.

Dr. G. F. Ward who was associated with Dr. A. L. Van Horn of Owosso has located in White Cloud.

Dr. F. C. Warnshuis of Grand Rapids has been appointed local surgeon for the P. M. Ry. Co and shops of Grand Rapids, the appointment taking effect January 1.

Dr. E. A. Gilbert, formerly house physician at Butterworth Hospital, Grand Rapids, has become associated with Dr. E. O. Hanlon of Wayland.

Dr. J. W. Newcomb, formerly of Reed City, has recently returned from Maine and opened an office at Reed City.

Dr. Geo. C. Hafford of Albion who has been confined to his house for several weeks is again able to be at his office.

A series of seven lectures will be given by physicians under the auspices of the Y. M. C. A. at Cadillac.

Dr. C. G. Parnell has been appointed health officer of Jackson.

County Society News

A. C. E. SOCIETY

The Emmet County Medical Society, met in annual session at the Cushman House, Tuesday, January 12, at 7:30 p. m. with Antrim and Charlevoix Societies as their guests. At 6 p. m. twenty-three doctors sat down to a banquet served by the proprietor, which was fully up to the reputation of the hotel. After partaking of the good things provided, the Emmet County Medical Society repaired to the parlors where they elected officers for the present year.

The doctors of Antrim and Charlevoix counties convened elsewhere in business meeting to discuss certain affairs pertaining to their respective societies, and when through were invited to join the Emmet Medical Society where steps were taken to organize a Tri-County Society, which was most successfully done in a short time, the society assuming the officers Dr. E. R. Morman of Pellston, President, Dr. G. W. Nihart of Petoskey Secretary and Treasurer, who were elected by the Emmet County Medical Society a short time previously.

The society was very much favored by the presence of Dr. F. C. Warnshuis, State Secretary and B. H. McMullen one of the surgeons of Cadillac and Councilor of that district. The former furnished a paper on brain surgery entitled: "The Indication of Cerebral Decompression," which was well received and brought out an interesting discussion by the society. Dr. John J. Reyecraft of Petoskey also read

a paper on Menopause, which was discussed at length and appreciated.

The society hopes to have the pleasure of entertaining the honored guests at some future time, as their presence and help was an inspiration and aided largely to make the session one of the most successful ever held.

G. W. NIHART, Secretary.

DELTA COUNTY

At the annual meeting of the Delta County Medical Society, held on Dec. 16, 1914 at the Delta Hotel, the following officers were elected for the year 1915:

President—W. C. Lemire, Escanaba.

Vice-President—W. B. Boyce, Escanaba.

Secretary-Treasurer—Wm. Elliott, Escanaba.

Delegate—James Mitchell, Gladstone.

Alternate—A. H. Miller, Gladstone.

Medical Legal Committee—D. N. Kee, Chairman.

Following the meeting the members retired to the dining room where they acted as hosts to their wives and friends when they participated in an elegant banquet served by the management of the hotel.

The President, Dr. Mitchell, acted as toastmaster and introduced the Rev. Ferris, who made a very witty address. Dr. Elliott was then asked to make the address of welcome to the ladies, which he did in a very pleasant manner.

Dr. Girard was then presented with a life membership in the Society. Dr. Girard responded in his usual witty manner and the meeting was closed by Dr. Long giving an informal talk of his trip abroad.

WM. ELLIOTT, Secretary.

DETROIT OPHTHALMOLOGICAL AND OTOLOGICAL CLUB

The December meeting of the Detroit Ophthalmological and Otolological Club was held in the Eye and Ear building of the University of Michigan during the afternoon of December 3. Dr. Walter R. Parker furnished a clinical program and the following cases were exhibited and discussed by the members present:

EPITHELIOMA OF THE LID.

CASE 1. A. J. R., male, age 40, gave a history of having had a growth on the left lower eye-lid since Sept. 1912. Although small at first, it had gradually increased in size until it had involved the entire lower lid. A small portion was excised and referred to the pathological department.

EXAMINATION showed the tumor to be a basal-cell carcinoma.

OPERATION.—The entire lower lid was excised and a pedunculated flap from the temple, up and out from the external canthus, was swung around and sutured both to the conjunctiva of the fornix and to the skin. Union was complete, with a satisfactory result. Seven months have elapsed since the operation and there is no evidence of recurrence.

CASE 2 and 3. In one of these cases an epithelioma involved the entire lower lid, much as in the previous case, while in the other a small growth of the lid did not affect the lid-margin. The first was a recent case; the second, one of three years standing. The results of skin grafting in both of these cases were very satisfactory.

CICATRICAL CONTRACTION OF LOWER LIDS FOLLOWING A DYNAMITE EXPLOSION.

Both lower lids were restored by grafts taken from the arm. On the right side, the Thiersch graft was employed and on

the left, the Wolffe graft. While the thicker graft showed some elevation of the skin for several months, the final result was the same on both sides, except that there was possibly a little more contraction in the lid on which the Thiersch graft was used. The operation was done six years ago.

INTERSTITIAL KERATITIS.

Two cases of interstitial keratitis which came under observation when only one eye had become involved. Wassermann positive. In spite of the fact that salvarsan had been administered in the usual way, followed by mercurial rubs, the interstitial inflammation developed later in the other eye.

DIVERGENT STRABISMUS.

A case with a deviation of 85 degrees. Two weeks previously a Worth's advancement of the internal rectus was done associated with tenotomy of the external rectus of the same eye. The stitches held well, and there was only a moderate amount of reaction following the operation. There was still a divergence of from 10 to 15 degrees; 70 to 75 degrees, measured by the Priestly-Smith method, having been corrected by the operation.

HYPERTROPHY OF THE LID.

This was a case of marked hypertrophy of the right upper lid in a boy of 8 years. Ptosis had been present since birth, and the upper lid was so much enlarged that it overlapped the lower lid about one-half inch. The tumor mass was removed in two stages, first through the skin of the upper lid and secondly through the conjunctiva. Pathological examination showed the growth to be a neurofibroma.

GUMMA OF THE CILIARY BODY.

J. J., male, Greek, age 35. As the man spoke little English, it was difficult to obtain a good history.

EXAMINATION.—Right eye; vision 6/7.5, conjunctiva slightly injected, most marked nasally, cornea clear, anterior chamber shallow. Pupil dilated somewhat irregularly under mydriatic, media clear, disc and fundus both somewhat hyperemic, arteries small, light reflex stripes increased, vessels tortuous, slightly veins engorged. Left eye, proptosed about 3 to 4 millimeters. Ocular conjunctiva intensely hyperemic and swollen, especially near the limbus. Down and out there is a dark ectatic area about 3 millimeters wide and 4 millimeters long. The whole mass elevated about 1 millimeter. Cornea hazy, stippled throughout, with a well marked salmon patch in the upper portion. Marked ciliary injection. The whole anterior chamber filled with a yellowish exudate, iris being entirely obscured from view.

GENERAL EXAMINATION.—Patient was of slender build, lungs negative, heart, normal, a few mucous patches seen in the mouth, no skin lesions noted. On the tibia of each leg there was a small area which was very painful to pressure. Slight thickening of the periosteum in the painful region. Wassermann positive.

DIAGNOSIS.—Gumma of the ciliary body.

The tumor subsided under treatment which consisted of full doses of Salvarsan, followed by mercurial rubs. At the present time his general condition is much improved. The gumma shows only as a dark area in the sclera; the mass of exudate in the anterior chamber has almost entirely disappeared. The result obtained from the treatment leaves no doubt as to the diagnosis. The case is of unusual interest in that it shows both secondary and tertiary lesions of syphilis at the same time. "This, I am informed by Dr. Wile, who administered the treatment to this patient, is not unusual in fulminating cases of syphilis."

TRAUMATIC LUXATION OF LENS.

Male, age 13, struck in the left eye with a ball from a sling-shot in August, 1912.

EXAMINATION.—Vision of right eye 5/4, left eye 4/60. Right eye normal. Left eye, lens dislocated nasally, somewhat granular in appearance. Fragments of suspensory apparatus seen between the pupillary border and the temporal margin of the lens. There were many seaweed-like opacities of the vitreous; fundus details could not be made out.

OPERATION.—Lens was needled November 23, followed ten days later by linear extraction.

In addition to the above conditions, patients were shown with *Punctate Keratitis*, *Tuberculosis of the Conjunctiva* and *Hyaline Nodules on the Optic Disc* respectively; also one patient whose lacrymal sac had been extirpated for *Chronic Dacryocystitis*, preliminary to cataract extraction, another with *Pseudo-*

papillitis, who had been under observation for three years, and finally a patient cured of *Detachment of the Retina* by a trephine operation of the sclera followed by puncture of the choroid.

On returning from Ann Arbor the members of the club were guests of Dr Parker at dinner at the Wayne County Medical Building

Dr Parker read a short paper on skin grafting. After defining the different forms of grafts, the author reviewed the results of his experience with whole skin pedunculated and non-pedunculated grafts (Wolffe grafts), also of cases in which only the superficial layers of the skin (Thiersch grafts) were taken. The thin grafts are preferable in all cases where there is no great amount of friction or where no supporting tissue is required. When the whole lid is removed thick grafts are required.

Particular stress was laid on the method of cutting the thin grafts and the method of treatment.

The part from which the graft is to be taken should be carefully prepared by first washing with soap and water, then with alcohol and finally with bi-chloride of mercury solution 1 to 4000. It is then thoroughly irrigated with normal salt solution and a moist normal salt dressing is applied and left in place until the time for cutting the graft. After the surface to be grafted is prepared (all bleeding controlled and the surface allowed to glaze) the skin from which the graft is to be cut is smeared with a very thin layer of sterile vaseline. A few drops of salt solution are then put on the back of the razor and by a sawing motion a large thin graft may be cut. The graft is transferred to the surface to be covered. It should slightly overlap the edges of the wound, or if more than one graft is employed the grafts should slightly overlap each other. Sutures may or may not be needed in thin grafts; they should always be used in whole skin grafts. Care should then be taken to press the graft well down in all irregularities of the surface. Small snips may be made in the graft to allow the escape of air bubbles or of any secretion that may arise. The edges of the wound are carefully dusted with aristol and no dressings applied other than for protection. A wall of gauze held in place by adhesive plaster may be built up around the grafted surface and the whole covered with a few layers of gauze. In this way the dressings are prevented from coming in contact with the grafts and at the same time the surface is protected from dust particles which might lead to infection. By the adoption of this open air treatment, the author claims that the number of his "takes" has been greatly increased.

One of the most striking things about skin grafting is the persistence of the vitality of the grafts. The skin of amputated limbs has been successfully transplanted from thirty-six to ninety-six hours after amputation. All experiments go to prove that nothing is lost in vitality in twenty-four hours if the graft is kept cool. The skin may be kept in an ordinary ice-chest in a sterile jar plugged with cotton containing a moist normal salt gauze sponge. Strict asepsis and a properly prepared field, not speed, are the most important factors in successful skin grafting.

HOWELL L. BEGLE, Secretary.

GRATIOT COUNTY

The sixth annual meeting of the Gratiot County Medical Society was held in the Wright House in Alma, Tuesday, Dec. 15, at 2 p. m.

The minutes of the last meeting were read and approved, after which Dr. H. J. Meyer of Saginaw read a paper on "Gastro Enterostomy." The following decisions were made by the Society:

To continue having monthly meetings.

To raise the dues of the County Society to \$2.00 a year.

To have an annual banquet and invite the wives.

It was voted that an honorarium of \$10.00 be given to the secretary.

The following were elected as officers for 1915:

President—E. H. Foust, Ithaca.

Vice-President—C. B. Gardner, Alma.

Secretary-Treasurer—E. M. Highfield, Riverdale.

The following report of the Secretary was then read:

Since our last annual meeting we have held seven meetings and one picnic.

Six invited guests have either addressed us or read papers. Sixteen papers have been read by members.

There are thirty-three doctors in the county of whom thirty are members, a per cent. of a trifle better than 90.

The average attendance was sixteen at each meeting.

Balance on hand Dec. 31, 1913.....	\$ 8.00
Received from members	120.00

Remitted to State Society	\$ 90.00	\$128.00
Expense of invited guests	17.00	
Incidental expenses	16.20	
	<hr/>	
	123.20	\$123.20

Balance on hand Dec. 31, 1914	\$ 4.80
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E. M. HIGHFIELD, Secretary.

HILLSDALE COUNTY

The annual meeting of the Hillsdale County Medical Society was held December 18, 1914, when the following program was presented:

Symposium on Pneumonia:

Etiology and Diagnosis.

H. H. Frazier, Hanover.

Pathology.

C. T. Bower, Hillsdale.

Complications.

D. W. Fenton, Reading

Treatment.

W. H. Sawyer, Hillsdale.

The following officers were elected for the year 1915:

President—H. H. Frazier, Hanover.

Vice-President—O. G. McFarland, Montgomery.

Secretary-Treasurer—E. A. Martindale, Hillsdale.

E. A. MARTINDALE, Secretary.

IONIA COUNTY

The monthly meeting of the Ionia County Medical Society was held January 14, 1915. There seemed to be much enthusiasm among the members. Dr. Knapp gave a short closing address as retiring president, and Dr. E. A. Hargrave also gave a talk. Both doctors impressed upon the members the importance of better fees, and also uniformity in changing such fees. The meeting then adjourned to meet again the first Thursday in February.

R. R. WHITTEN, Secretary.

KALAMAZOO ACADEMY.

Tuesday, Jan. 26, 1915. Academy of Medicine Rooms, Public Library Building.

Luncheon at The Burdick at 12 noon.

Meeting called to order at 1.30 p. m.

1. Case Reports.
2. Some Observations of Anesthesia and Crile's Clinic at Lakeside Hospital.

Dr. R. Genung Leland, Kalamazoo.

3. Some Aspects of Congenital Syphilis of the Nervous System.

Dr. Carl D. Camp, Ann Arbor.

Professor of Neurology of the U. of M.

THE AMENDMENT.

Please note the following as to the annual dues of the Academy. An amendment was adopted at the last meeting which makes our constitution and by-laws read as follows: Chapter six, section one. Any member who shall fail to pay his dues on or before April first of the year following the annual meeting shall forfeit his membership in this society and in the State Society, and his name shall be placed on the list of non-affiliated physicians in the report of the Secretary for that year. Provided also, that he shall have been notified by the Secretary by letter addressed to his last known address. "To forfeit one's membership" means in this case that to be re-instated one's name must be presented in a formal manner on the regular application blank and acted on by the Board of Censors and voted in the society in the regular manner.

Brief Abstract on "The Newer Problem in the Earlier Recognition and Treatment of Cancer."

Dr. Joseph C. Bloodgood, Baltimore, M.D.

There is great difference of opinion among pathologists as to what constitutes cancer histologically. The surgeon is more capable in making a diagnosis at time of operation than the pathologist from frozen sections made during an operation. Trained pathologists cannot make a diagnosis with the microscope as to whether certain tissues are cancerous.

Encapsulation of tumor indicates that it is benign.

When walls of cysts are thickened, and contents are grumous or hemorrhagic, suspect cancer.

Frozen sections about cysts are difficult to diagnose microscopically.

Simple cysts and adenomata are smooth tumors of the breast. Adenomata are the most common of breast tumors.

Pain is an early sign of benign tumors, thus, women with such tumors in the breast seek medical advice early. Whereas, fifty out of every one hun-

dred cases of the malignant type seek medical advice too late because they suffer little inconvenience.

Discharge of blood from nipple not always due to cancer but more often due to papilloma.

The normal lactating breast often appears like carcinoma microscopically.

Senile parenchymatous hypertrophic mastitis resembles carcinomatous tissue because it is not encapsulated.

In about one appendix out of five hundred there is to be found a submucous nodule supposed to be cancer microscopically.

Indurated nodule of the stomach cannot be diagnosed whether cancer or not by feeling. Gastroenterostomy will cure ulcer but not cancer. Resect indurated area if suspicious.

Difficult to diagnose cancer of the sigmoid from diverticulitis. Twelve per cent. of these cases will get well if a colostomy is done above and the colostomy wound will heal if left alone whereas, if a resection is done 60 per cent. will die.

Suspicious erosions or sores on the lip should be cut out; if found to be cancer resect the glands but do nothing more locally. Should the sore be benign the possibility of error has been removed and there is no mutilation. In advanced cases the mortality is 20 per cent.

More embryonic residue, subepidermal nodules, is to be found on the face than elsewhere. Operate early, there is no danger nor mutilation.

The serious factor of the quack cancer-cure man is that an ignorant man treats tumors of the face that are malignant. He makes his reputation on the lesions of the face that would disappear without treatment. The paste that he uses is that found in any book on surgery.

This lecture was profusely illustrated by lantern slides. To receive the most of the programs of the Academy attendance in person is indispensable.

MISCELLANEOUS.

Dr. O. D. Hudnutt has moved to Otsego to become associated with Dr. A. L. Van Horn. We know that success will attend his honest efforts. We regret that it was necessary for Dr. Hudnutt to resign as treasurer of the Society. His successor to be elected at the next meeting, January 26.

Drs. Frederick Shillito and E. J. Bernstein attended the Northern Tri-State Medical meeting which convened at Elkhart, Ind. on January 12.

Dr. Sherman Gregg of the Michigan State Hospital is in Ann Arbor doing some special work in Neurology.

Members of Committees that were omitted by mistake in last Bulletin:

A. S. Youngs, Medical Program Committee.

A. H. Rockwell and F. Ilgenfritz, members of the Social Hygiene Committee.

KENT COUNTY.

The twelfth annual meeting and election of officers of the Kent County Medical Society was held in Grand Rapids Wednesday, December 9, 1914. The balloting resulted as follows:

President—Frederick C. Warnshuis.

Vice-President—H. J. Pyle.

Secretary-Treasurer—Frank C. Kinsey.

Assistant Secretary-Treasurer—John Wenger.

Councillor Fifth District—Wm. J. DuBois.

Defense League Representative—G. L. McBride.

Delegates to the State Convention—J. D. Brook, Ralph Apted, A. J. Baker.

Alternates—W. H. Veenboer, A. V. Wenger, N. H. Kassabien.

All were elected without opposition.

The first meeting of the new year was held January 13 in the new Y. M. C. A. building. Following a suggestion of Dr. Corbus, chairman of the board of directors, it was voted to express to the Wayne County Medical Society our hearty interest with their effort to bring the annual meeting of the American Medical Association to Michigan next year, and to offer them every help in the power of the Society.

Dr. DuBois reported two very interesting cases of intestinal obstruction. One, in an old woman, was due to the fact that a loop of ileum was caught in a foramen caused by adhesions between the uterus and post-pelvic contents: the other, in a child three-years old, was caused by a Meckel's diverticulum which came off the ileum about twelve inches from the ileo-cecal junction and attached itself to the posterior portion of the cecal mesentery. Into this foramen a loop of ileum had forced itself and its return was prevented by a wedge of bowel contents. The diverticulum was removed and the child recovered.

Dr. Alexander M. Campbell read a paper illustrated with the lantern, on "The Modern Obstetrician: His Duties Toward the Expectant Mother." This will appear later in the *State Journal*. In the discussion which followed Dr. Campbell's paper, it was suggested by Dr. McBride that the profession needs some authoritative but simply written primer or book of rules for expectant mothers. This would furnish a cheap scientific aid for poor families unable to consult their physician frequently, and would take the place of old women's advice so largely and so lamentably followed at the present time.

FRANK C. KINSEY, Secretary.

MANISTEE COUNTY.

The regular monthly meeting of the Manistee County Medical Society was held at Ramsdell Hall, President, E. S. Ellis presiding.

The minutes of the last meeting were read and approved.

A communication from the Secretary of the State Board of Health regarding the proposed "Health Commissioners' Bill" was read and discussed. Motion was made and carried that the Secretary be instructed to write our local representative and senator urging their support of same in their respective houses when the bill comes up.

The annual election of officers resulted as follows:

President—Dr. E. S. Ellis.

First Vice-President—C. E. Webb.

Second Vice-President—Katheryn Bryan.

Treasurer—H. D. Robinson.

Secretary—Lee A. Lewis.

Delegate—Lewis Ramsdell.

Alternate—H. D. Robinson.

Dr. W. S. Foster then read a splendid paper on the Medical and Dental Professions, showing the relation of the two professions, how their duties dovetail and the mutual advantages of harmonious co-operation in certain pathologic conditions.

The application of Dr. Homer Ramsdall was received, and the meeting then adjourned.

LEE A. LEWIS, Secretary.

MONTCALM COUNTY.

The Montcalm County Medical Society met January 14 at the Phelps Hotel. The following program was carried out in full:

10.30 A. M. to 12 M.—Reading of the minutes of the last meeting. Communication and clinics. All members invited to bring patients.

Luncheon at Hotel Phelps at 12 m., 50 cents.

1:30 P. M.—Dr. Alexander M. Campbell of Grand Rapids read a paper on "The Modern Obstetrician, his Responsibilities and his Obligations."

Discussion opened by Dr. Lee E. Kelsey of Lakeview.

2:50 P. M.—Dr. A. J. Brower of Greenville read a paper on "Appendicitis Symptoms, Differential Diagnosis and Treatment." The discussion was opened by Dr. F. A. Johnson of Greenville.

Dr. Campbell illustrated his paper by the use of lantern slides.

The society reported in favor of the proposed District Health Commissioners' Bill.

Attention was called to the matter of patronizing those firms who advertise in the *State Medical Journal*.

On account of the difficulty of the members getting away from their homes in country places in the winter time, no special meeting was arranged for until next April when the regular meeting will be held.

F. J. FRALICK, Secretary.

MARQUETTE-ALGER COUNTY

The December meeting of the Marquette-Alger County Medical Society, which is the annual meeting, was held in Negaunee the evening of the 22nd. There was a large attendance and a long and varied program. The feature of the evening was a paper by Fred McD. Harkin of Marquette upon the life and writings of the late Dr. William Drummond of Canada. In his student days Dr. Harkin was thrown much in Dr. Drummond's society, and the friendship then formed continued through the latter's lifetime. Dr. Drummond had presented Dr. Harkin with the original manuscript of one of his most popular poems, and the latter's talk was punctuated with recitations from these poems.

These annual meetings are very enjoyable, and this particular one brought out half the membership.

T. A. FELCH, Secretary.

SHIAWASSEE COUNTY.

The Shiawassee County Medical Society met in Owosso on Dec. 15, 1914, and elected the following officers for the ensuing year:

President—S. S. C. Phippen, Owosso.

Vice-President—L. M. Cudworth, Perry.

Secretary-Treasurer—W. E. Ward, Owosso.

Delegate—J. A. Rowley, Durand.

Board of Directors—Drs. Rowley, Sudworth and White.

After disposing of routine business the President introduced Dr. M. L. Holm of Lansing, who presented a most interesting paper on "Direct Swab Examination for Early Diagnosis of Diphtheria."

Following Dr. Holm's paper was an interesting discussion, after which a hearty vote of thanks was tendered him for his courtesy.

W. E. WARD, Secretary.

SANILAC COUNTY

The fourteenth annual meeting of the Sanilac County Medical Society was held at Sandusky, Dec. 28, 1914, for the purpose of electing officers for 1915, and the following were elected:

President—C. G. Robertson, Sandusky.

Vice-President—E. F. Partello, Applegate.

Secretary-Treasurer—J. W. Scott, Sandusky.

Delegate—G. L. Tweedie, Sandusky.

Alternate—J. W. Scott, Sandusky.

Medical Legal Committee—D. D. McNaughton, Argyle.

J. W. SCOTT, Secretary.

Book Reviews

PROGRESSIVE MEDICINE. Vol. XVI No. 4. A Quarterly Digest. Lea & Febiger, Philadelphia. \$6 per annum.

This issue contains the following excellent articles: Diseases of the Digestive Tract and Allied Organs, The Liver, Pancreas and Peritonium by Edw. H. Goodwin; Disease of the Kidney by John Rose Bradford; Genito-Urinary Diseases by Chas. W. Bonney; Surgery of the Extremities, Shock, Anesthesia, Infections, Fractures and Dislocations, and Tumors by J. C. Bloodgood; Practical Therapeutic Referendum by H. R. M. Landis.

The issue, if anything, exceeds its excellent established standard and is a most valuable compilation of the best and recent information upon these subjects.

INTERNATIONAL CLINICS. A quarterly review. Edited by Henry W. Cattell. J. B. Lippincott Co. Philadelphia. Vol. IV, Series XXIV, 1914. Price \$2. Cloth, 314 pages.

A volume of unusual excellence. The series have long past demonstrated their excellence and merit possession by every progressive medical man.

FEVER, ITS THERMOTAXIS AND METABOLISM, by Isaac Ott, A.M., M.D.. Professor of Physiology Medico-Chirurgical College, Philadelphia. Cloth, 166 pages, 14 ills. Price \$1.50 Paul B. Hoeber, Publisher, 67 East 59th St., New York.

These lectures were delivered at the Medico-Chirurgical College. They have been thought worthy of publication, as the subject is one of maximal importance in the practice of medicine. The studies upon this subject have occupied the author for forty-five years, as a practitioner of medicine and a physiologist.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XIV

GRAND RAPIDS, MICHIGAN, MARCH, 1915

No. 3

Original Articles

CHRONIC INTESTINAL STASIS—FLUOROSCOPIC AND X-RAY DIAGNOSIS IN THE LIGHT OF OPERATIVE FINDINGS—WITH ILLUSTRATIVE CASES.*

WILLIAM SEAMAN BAINBRIDGE,
A.M., Sc.D, M.D., C.M.
NEW YORK CITY.

A distinguished pathologist, in discussing the work and views of Sir W. Arbuthnot Lane with reference to chronic intestinal stasis, asks the question: "Is Sir Arbuthnot Lane justified in his teachings, or is he the victim of an obsession?"

"If his teaching be false it will die," says another, "if it be true it will form a landmark in the surgery of the twentieth century!"

Again, after having verified many of Lane's findings, another of his countrymen announces that he is "traveling hopefully."

From indifference to ridicule, from curiosity to earnest attention, the majority of surgeons who have given ear to Lane's views at all, have passed. A few have persistently followed his lead, and have sincerely endeavored to test his theories by actual experience, believing from the first that he had opened up a new and fruitful field of endeavor. Internists, gastro-enterologists, surgeons, and Roentgenologists have united in the determined effort to decide whether these teachings shall die, or whether the surgery of the twentieth century shall be revolutionized, in a measure, in accordance with Lane's views.

In this general effort the Roentgenologist has played a conspicuous part, and has rendered valuable service in the matter of making and verifying diagnoses. The splendid work of Jordan, in this connection, is doubtless familiar to all. It has served, in a measure, as a model

for others who are working in this difficult field—for it cannot be denied that the gastro-intestinal tract is a difficult field for the radiologist. How well they have succeeded has been expressed recently by members of this specialty, as follows:¹ "It was the X-Ray used after the administration of a bismuth meal, that finally unlocked the door to a positive and scientific knowledge of the action of the alimentary canal." They also quote the familiar statement from Keen's System of Surgery (Sixth Edition): "The actual size and shape of the stomach, as known to the pre-Roentgen anatomists, or its motor functions and peristaltic activity, as known to pre-Roentgen physiologists, were almost as inaccurate as the map of Europe before Columbus proved the earth was spherical. The Roentgenologist who has repeatedly watched the behavior of a bismuth meal in its passage through the alimentary canal has a far more accurate idea of the normal processes of digestion than had the best pre-Roentgen clinician."

Such statements apply, with absolute justice, to radiographic work of high quality. X-Ray and fluoroscopic examinations carefully executed and properly interpreted, are of great value, and surgeon and Roentgenologist should co-operate in increasing skill in execution and interpretation. For it is equally true that unless radiographic examinations of the alimentary canal be made with an accurate understanding of the requirements of this particular part of the anatomy, and unless they be intelligently interpreted, they are of practically no value, and the surgeon who depends upon them for a guide as to whether to operate or not to operate will find himself falling into many difficulties.

Undoubtedly the most expert work accomplished in this direction is that of Alfred C. Jordan, of London, who has been associated with Sir Arbuthnot Lane in so much of the latter's investigation of the subject of chronic intestinal stasis. Jordan's success in this line

*Read, in part, by invitation, before the American Roentgen Ray Society, at Cleveland, Ohio, September 9, 1914, and before the M.S.M.S., Lansing, Mich., September 11, 1914.

1. Boggs and Foster, International Journal of Surgery, April, 1914.

has been attributable in large measure to the fact that he has gone over his plates, made before operation, at the operating table, comparing step by step his fluoroscopic and radiographic findings with conditions actually found during operation. By checking up his errors in this way he has been able to better guard against them. He has thus developed the ability to make negative as well as positive diagnoses. Those who, like Jordan, are willing to devote the time and patience required in this checking-up method, will find a certain sense of security in their work that it must be difficult to acquire by confining one's effort to the X-Ray laboratory. Such work, I fancy, will dispel forever the possibility of our following the will-of-the-wisp which the distinguished pathologist (Adami) has inferentially designated an obsession.

However, it is not the purpose of this brief communication to discuss the merits or demerits of Lane's theories concerning chronic intestinal stasis. I think we may dismiss, for the present, as proved, his contention that adventitious bands *do* form about certain portions of the gastrointestinal tract, that they may cause kinking of the gut at points of fixation, and that the immediate results of this state of affairs is often a slowing of the contents of the great drainage canal—a condition to which he has applied the term chronic intestinal stasis, with a long chain of symptoms which can be best explained by a toxic condition resulting from an absorption of poisons from the intestinal tract. If there is still a doubt in the minds of those who are studying the matter, I feel sure that the checking-up method of study alluded to, in which surgeon and radiologist co-operate at the operating table, will go far toward dispelling such doubts.

It is necessary, first, however, for both surgeon and radiologist to understand perfectly the mechanics of the great drainage scheme of the body. All this has been so clearly detailed in papers by Lane and his students that I need not take time here to discuss the matter. One point, however, I wish again to reiterate, namely, that in searching for kinks in the gut it must be borne in mind, by radiologist as well as surgeon, that there is a difference in the relationships of the intestines when the patient is in the erect and in the prone position upon the back. In the upright posture there is, as all know, a tendency to a greater or less degree of general ptosis of the hollow viscera, and that it is this falling of the viscera which causes the

strain on the points along the course of the drainage canal at which the lines of stress and strain have crystallized into definite bands. In the prone position, as on the operating table, this ptosis is temporarily overcome, of course, and no kink is visible upon superficial examination, no matter how definite it may be when the individual is in the upright position. By lifting up the bowel the kink comes into view. This is just the reason why the radiologist should study his subjects in both positions, and at the operating table.

It is important, as Lane and Jordan have so often repeated, that the alimentary tract be regarded as a whole, that its diseases should not be regarded as "isolated phenomena," but that local manifestations along its course and in accessory organs be regarded as expressions of a general disorder. As we all know, Lane maintains that many diseases, such as gastric ulcer, cancer, gall-stones, rheumatoid arthritis, and others, are the remote results of chronic intestinal stasis. This theory forms an important part of the "obsession" which the great pioneer is supposed by some to harbor. It is not the purpose of this communication to attempt to prove or disprove this theory. There seems, however, to be much food for thought just here, as some of the cases which I shall presently show, will demonstrate. According to Jordan, "the general disease at the bottom of the case can always be revealed by a complete radiological investigation of the alimentary system," and it is just this contention which, it seems to me, should stimulate radiologists to make careful and painstaking investigations along the lines laid down by Lane and Jordan.

In this connection I wish to emphasize the importance of the fluoroscopic examination in all cases. "X-Ray diagnosis after a bismuth meal," according to Jordan, "depends entirely upon observations with the fluorescent screen. It is all-important to watch the movements accompanying respiration, the peristaltic activities of the different parts, and to ascertain the presence of fixed parts, (e. g., in the terminal ileum) and of thickened parts (terminal ileum, appendix, iliac colon, etc.) by direct manipulation under the fluorescent screen. The patient must, therefore, be as accessible to the observer as he would be to the surgeon about to operate upon him." "In commencing the investigation," he continues, "we gain an important clue at the first examination when we observe the duodenum. This is without doubt, the most sensitive part of the alimentary tract; even the early

stages of intestinal stasis produce their inevitable effect upon the duodenum which becomes distended from obstruction (by kinking) at the commencement of the jejunum. The difficulty this kink causes the duodenum is obvious when the duodenum is observed (by fluorescent screen) full of bismuth emulsion. In the first place the duodenum is obviously enlarged; its vertical portion measures four or five inches instead of two and three-fourths to three and one-fourth inches as in normal cases. The width of the duodenum is often double that of the normal, the first part of the duodenum being especially dilated. More remarkable by far than the increased size is the altered behaviour of the 'static' duodenum. It is exceedingly active, strong waves following one another along the four parts of the duodenum, and thrusting the contents before them. The strong waves are not effective, however; the contents get no farther than the third or fourth part of the duodenum; and as the wave passes off the whole of the contents flow back rapidly to the second (vertical) part. This event is often seen to recur over and over again, and for ten minutes or more no bismuth will enter the jejunum; then perhaps a peristaltic wave will come more powerful than any, and a full measure of bismuth fluid will enter the jejunum, the kink having been overcome for the moment. So powerful are the efforts of the 'static' duodenum that the entire organ gets distorted into various forms, giving the appearance of 'writhing.'" Thus, Jordan says, "The radiologist can demonstrate not only the end result (such as a gastric or duodenal ulcer) but also the various manifestations due to stasis itself. They should make any surgeon think twice before he decides to be content with the old order of things."

I have quoted these statements from Jordan, who has had a wider experience, having worked with Lane for so long, than perhaps any other radiologist has had in the study of the particular conditions under discussion, because I wish, in so far as I am able, to encourage this kind of work. I have frequently noted the tendency of the X-Ray worker to become discouraged after a few fruitless attempts at diagnosing conditions involving the alimentary tract. The wonderful success which Jordan and those who have persisted have attained should encourage others to renewed determination.

In this connection I wish to express my sincere appreciation of the careful and painstaking

work which Dr. Quimby, Dr. Cole, and others, have been doing in this direction. I have purposely selected for presentation on this occasion cases in each of which Dr. Quimby has made the fluoroscopic and radiographic examinations. He has presented the radiographic phase of these cases, showing the findings before operation, as revealed by fluoroscopic and X-Ray examinations. By reference to his findings the operative findings may be tallied with them. This is another manner of presenting the checking-up method and is adopted largely for the purpose of stimulating interest in this comparative plan of study.

I may explain, in passing, how the drawings, from which my lantern slides are prepared, are made. In the first place, I try to have a stenographer present in the operating room, to whom are dictated the findings. The medical illustrator makes a rough sketch of the conditions found, just as they appear to him or her at the operation. It requires only a few minutes for the surgeon to demonstrate these to the artist, who is skilled in this kind of work. The findings are then checked up by the assistants, and sometimes by visiting surgeons. From this operating-room sketch the artist builds up the drawings, with the assistance of the stenographer's notes, the checkings of the assistants, and the findings of the surgeon. Each picture is, therefore, an accurate interpretation of conditions as actually found upon the operating table.

It is obviously difficult, however, to put into each picture every phase of the pathological condition. Therefore, for purposes of clarity, without the sacrifice of accuracy, each picture emphasizes some special point or points.

What has been said with reference to the difficulty of portraying in a single picture every phase of the pathological condition found in a given case, applies equally to the X-Ray plates. Many plates would be required for such a complete demonstration.

For the above reasons, all the findings shown in the drawings may not be represented in the X-Ray plate or plates of the same patient, yet the features in which the operative findings shown corroborate the radiographic findings are quite sufficient to establish the importance of the X-Ray as an aid to diagnosis in cases of presumptive chronic intestinal stasis.

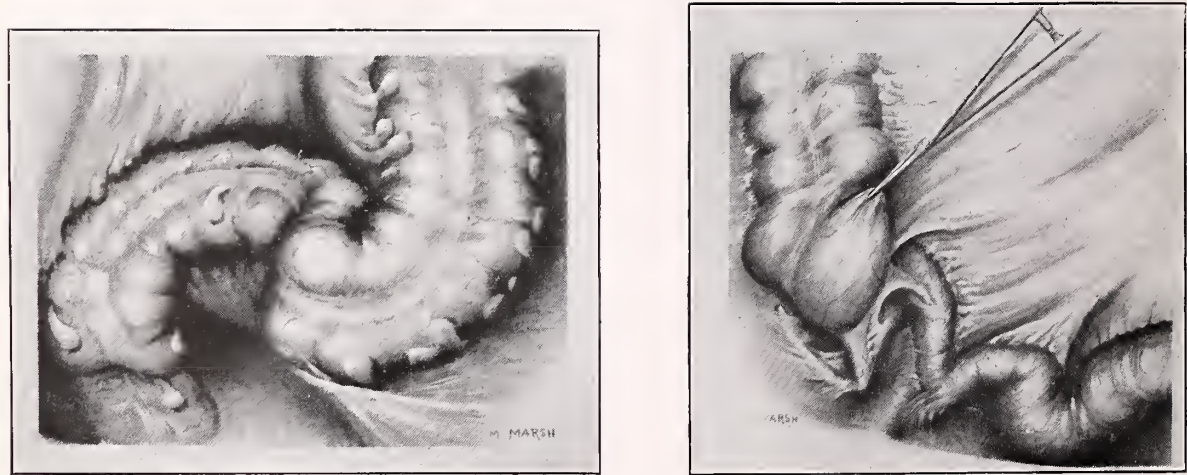
In the following cases I have purposely omitted the general history, the treatment, the immediate and remote results, our only concern here being a comparison of the radiographic

and fluoroscopic with the operative findings.

An inspection of both the operative findings and the artist's sketches should be made to obtain a proper conception of conditions found within the abdomen at operation, and these should be compared with the Roentgenographic findings to get full confirmation of the value of the X-Rays when preoperative determinations are made.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. I. C. Male, 41. Referred by Dr. J. Douglas Nisbet, New York City Operation, N. Y. Polyclinic Hospital, April 24, 1914.	Gastric delay of mild degree, due to interference in duodenum, pronounced only when patient was in erect position. Pyloric ulcer. Evidence of small mucous ulcer in first portion of duodenum. Chronic appendicitis; appendix kinked near its tip. Patulous ileocecal valve. Angulation in right transverse colon, due to a loosely formed membrane binding the hepatic angle. Acute angulation of splenic flexure. Evidence of a membrane binding pelvic sigmoid. General appearance of structures occupying lower right abdomen indicates probability of "Jackson's membrane" incompletely formed and interfering with various structures.	Stomach prolapsed and enlarged, but no evidence of ulcer on either stomach or duodenum, as determined by palpation and inspection. ² Appendix angulated, congested and bound tightly to pelvis; filled with fecal matter. Patulous ileocecal valve. Cecum and part of ascending colon attached by band to iliac fossa on lateral wall. Terminal ileum and head of colon bound tightly to brim of pelvis. Accentuated last kink of sigmoid, with angulating band of adhesions. Colon dilated above and colon and rectum below.

2. A mucous ulcer may be present and not seen by the operator unless stomach or intestine be opened.



CASE I. Fig. 1-a.

A. Descending colon.

B. Band causing accentuation of "last kink."

C. "Last kink," greatly accentuated.

D. Rectum.

CASE I. Fig. 2-a. (At a higher level).

A. Cecum.

B. Forceps holding up caput coli, which had become dilated, forming a large flabby pouch.

C. Angulated appendix, with bands.

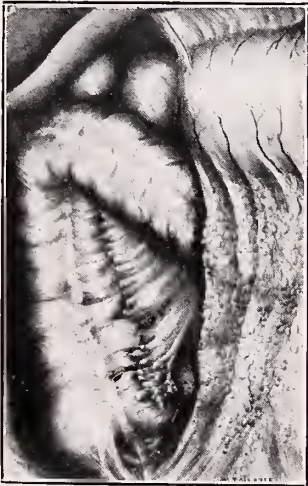
D. Constricted portion of terminal ileum, with tight attachment to pelvic wall.

E. Lane's band (Ileopelvic band).

F. Dilated ileum.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. II. P. Male, 38. Referred by Dr. William Van Valzah Hayes, New York City. Operation, N. Y. Polyclinic Hospital, April 24, 1914. ³	Examination, July, 1913. Gastric ulcer on lesser curvature near pylorus. Gastric delay which may be due to angulation of duodenum at juncture of the first and second portion. A Lane kink which is only operative in the erect position, there being no organic change or kink producing obstruction when the patient is horizontal. There is some regurgitation of the enema into the ileum. A chronic type of appendix, which may be adherent to the ilac mesentery. A loop in the descending colon, probably due to a mesenteric band. Redundant sigmoid. Partial examination, April, 1914, only of stomach and duodenum. Gastric ulcer, on lesser curvature, near pylorus. Angulation of duodenum.	Pylorus somewhat constricted, with slight induration on upper and posterior aspect, toward gastric side. Duodenum distended. Gastro-hepatic omentum considerably thickened at its free edge, over the foramen of Winslow; it was also shortened. Opposite this point on greater curvature was a thickened portion of great omentum which formed a band extending down to the cavum Retzii and to right iliac fossa, below appendix. Typical ileopelvic (Lane's band), very strong. Terminal ileum, caput coli, and angulated appendix tightly bound down by strong bands of adhesion.

3. NOTE: This patient was examined by Dr. Alfred C. Jordan, in London, last year. On April 21, 1914, he saw the patient again, this time in my office, in consultation with me. At this time he examined the radiographic plates made by Dr. Quimby. Dr. Jordan said: "There is well marked distension of the duodenum, with tenderness to pressure. The terminal coil of the ileum is hypertrophied and feels like a cord. There is tenderness over this coil."

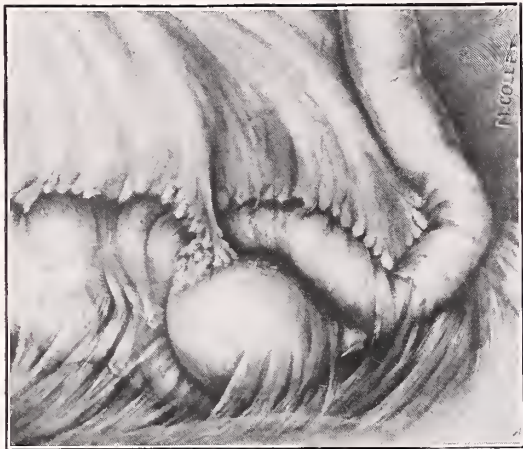


CASE II. Fig. 3-a.
A. Gall-bladder.
B. Dilated duodenum.
C. Stomach.
D. Great omentum, attached to upper and anterior surfaces of bladder, and to right iliac fossa.
E. Bands about appendix and head of colon. (See Fig. 4-a for enlargement.



CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. III. F. Male, 40. Referred by Dr. William Van Valzah Hayes, New York City. Operation, Alston's Private Hospital, June 18, 1914.	Kinking of duodenum at juncture of first and second portions. Evidence of ulcer at this place. Moderate dilatation of duodenum. ⁴ Band constricting terminal ileum. Evidence of a loosely formed adhesion or band in right transverse colon; this does not seem to offer material obstruction. Kinking of sigmoid at juncture of iliac and pelvic portions.	No duodenal constriction. Ileum pulled down along-side of cecum, and adherent to pelvic floor. Cecum dilated, rotated and firmly adherent to lateral wall of pelvis. Sigmoid colon very redundant and angulated by adventitious kinking band.

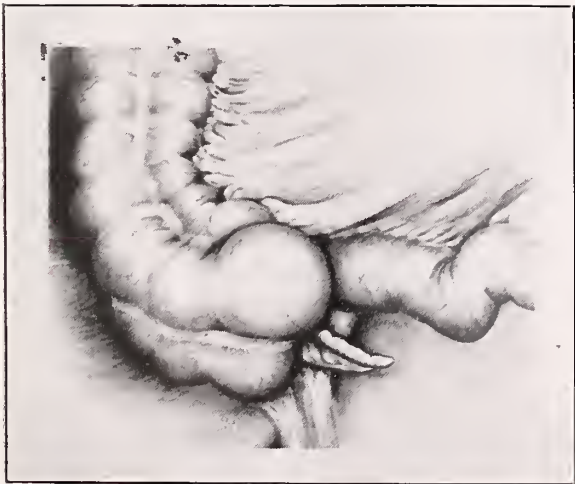
4. It is to be noted that a horizontal position often corrects a simple kink.



CASE III. Fig. 5-a.

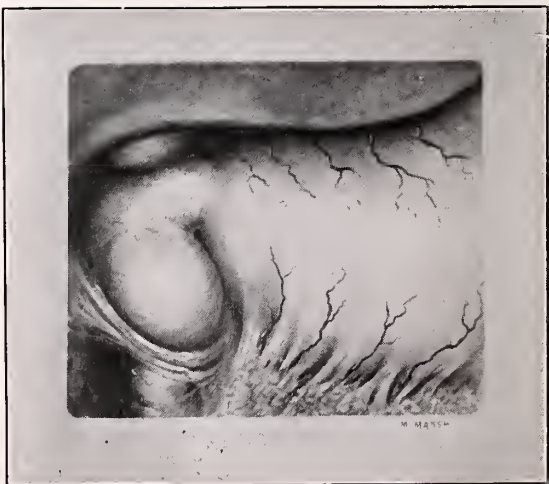
- A. Bands of adhesion attaching terminal ileum to posterior wall of right iliac fossa.
- B. "Jackson's membrane."
- C. Twisted caput coli attached to pelvic wall.
- D. Ileopelvic band. (When terminal ileum is allowed to drop into pelvis, as in upright posture, there is marked kinking at this point.)

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. IV. E. Male, 38. Operation, N. Y. Poly- clinic Hospital, March 24, 1914.	<p>Evidence of adhesions of first portion of duodenum.</p> <p>Chronic appendicitis. While appendix readily drains, it is placed in an unfavorable position, especially when patient is erect. There is evidence that it is kinked.</p> <p>Loosely formed adhesions between ascending and transverse colon, producing an acute angulation in the latter portion of colon. A mesenteric band or a contracted mesentery just above iliac crest on ascending colon.</p> <p>Patulous ileocecal valve.</p> <p>There may be a band just above cecum.</p>	<p>Healed ulcer of duodenum $\frac{3}{4}$ in. beyond pyloric orifice.</p> <p>Below site of ulcer a number of bands extended from behind across duodenum, indenting it toward transverse colon and greater curvature of stomach.</p> <p>Transverse colon much collapsed. Hepatic flexure hung downward almost to umbilicus. Splenic flexures well supported.</p> <p>Mobile cecum; posterior band was anterior and below, forming an angle, around a fixed point at the base of the appendix. The mid-point of the appendix, which was five inches long, represented a band extending into pelvis, around which mobile cecum rotated.</p> <p>Patulous ileocecal valve.</p> <p>Dilated terminal ileum.</p> <p>Several adventitious bands about sigmoid.</p> <p>Ileopelvic (Lane's) band, with meso-appendix attached to it.</p>



CASE IV. Fig. 6-a.

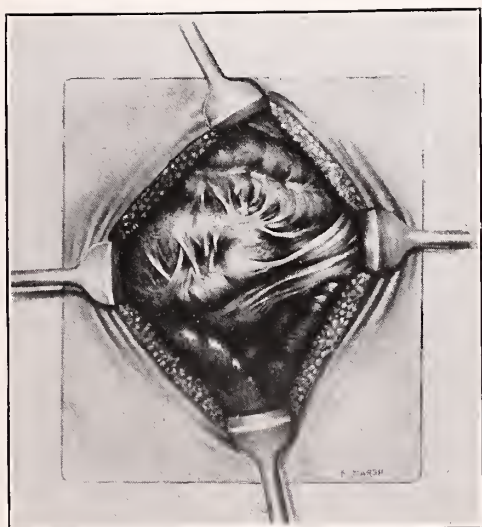
- A. Very strong ileopelvic (Lane's) band.
- B. Mobile cecum.
- C. Meso-appendix attached to Lane's band.
- D. Dilated terminal ileum, with patulous ileocecal valve.



CASE IV. Fig. 7-a.

- A. Dilated duodenum.
- B. Band of constriction across duodenum.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. V. X. Female, 45. Operation, St. Elizabeth's Hospital.	<p>Ulcer near pylorus. Evidence of small diverticulum above lesser curvature; this did not remain constantly filled.</p> <p>Evidence of adhesions near apex of conus duodenalis.</p> <p>Appendix adherent and kinked near its middle; its position suggested that it was probably attached to ileum or its mesentery; it is of chronic or non-functionating type.</p> <p>Probably two mesenteric bands on ascending colon, one just above cecum, the other just below hepatic flexure. Probably loosely formed adhesion to left transverse colon.</p> <p>Pelvic sigmoid redundant and dilated. Rectum dilated.</p>	<p>Transverse and ascending colon adherent to anterior abdominal wall and to falciform ligament of liver.</p> <p>Ascending colon adherent to transverse colon by strong bands; ascending colon angulated on itself, and held tightly to the lateral wall, deep down in the abdomen, the angulation almost obstructing its lumen, about midway between hepatic flexures and ileocecal valve.</p> <p>Chronic appendicitis. Appendix free.</p> <p>On under surface of mesentery of ileum beginning ileopelvic band. Practically no hepatic flexure; transverse colon held up only by bands to anterior abdominal wall and by "Jackson's membrane."</p> <p>Duodenum greatly dilated, duodeno-jejunal kink below.</p> <p>Scar of old ulcer constricting pylorus with adhesions below, catching hold of great omentum and dragging it upwards. Ulcer scar on lesser curvature.</p> <p>Beginning evolutionary bands on under surface of mesentery of ileum.</p>



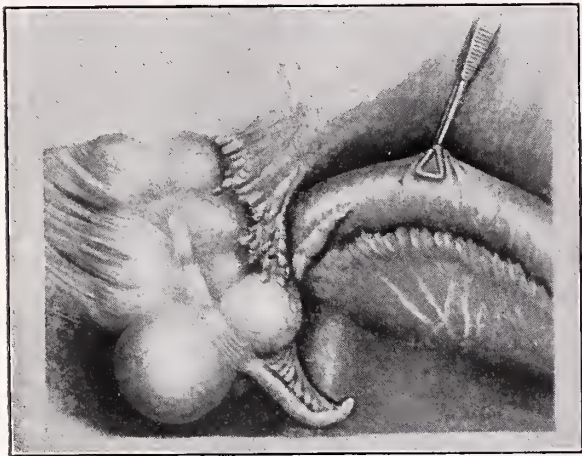
CASE V. Fig. 8-a.

- A. Ascending colon, angulated, with many adhesions.
- B. Adhesions from anterior abdominal wall to ascending colon.
- C. Transverse colon fastened by adhesions to kinked portion of ascending colon, near hepatic flexure.



CASE V. Fig. 9-a. After separating adhesions shown in Fig. 8-a the following conditions were found in right upper quadrant:

- A. Sites of old ulcers.
- B. Dilated duodenum.
- C. Edge of great omentum attached to pyloric scar.



CASE V. Fig. 9-b.
A. "Jackson's membrane."
B. White lines showing beginning lines of stress to form ileopelvic bands.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. VI. M. Male. Referred by Dr. H. M. Fleck, Bridgeport, Conn. Operation, N. Y. Polyclinic Hospital, Jan. 31, 1914.	Adhesions of pyloric end of stomach; these may involve first portion of duodenum. Ileal kink. Kinked appendix, presenting evidence of being adherent at tip; the kink is evidently due to a band or contracted portion of meso-appendix. Evidence of a few adhesions involving transverse colon.	Appendix, extending to left, large, distended with fecal matter, adherent at about its middle, where it was twisted, but not to the point of obstruction. Adhesions below ileum. Ileopelvic band. Omentum extensively adherent to under surface of liver and pyloric region. Mobile cecum.

CASE VI. Fig. 10-a.
A. Ileopelvic band.
B. Torsion of appendix, distended with fecal matter.
C. Mobile cecum.



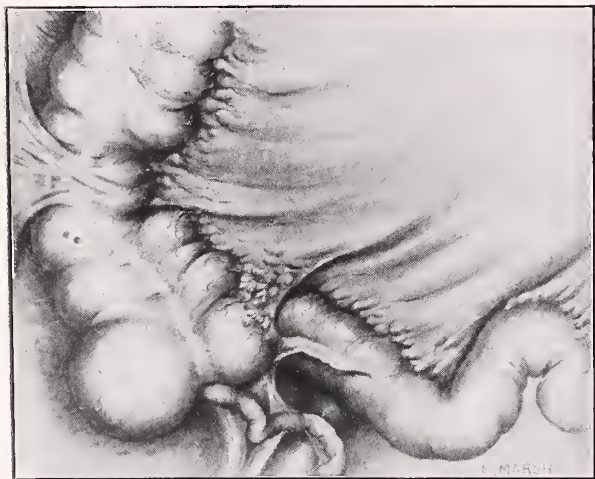
CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. VII. M. Female, 27. Referred by Dr. L. C. Menger, Brooklyn, N. Y. Operation, Alston's Private Hospital, May 30, 1914.	<p>Gastric delay due to kinking of duodenum.</p> <p>Ileal kink; this does not present all the characteristics of a simple Lane's kink.</p> <p>Appendix probably adherent at its tip, but a contracted meso-appendix may account for its fixation. No interference with drainage of appendix. Doubtless subject to traction when patient is erect.</p> <p>Some evidence of fixation of middle of transverse colon.</p>	<p>Narrow band running from transverse meso-colon to pylorus, causing marked constriction of pyloric orifice.</p> <p>Evidence of old ulcer on extreme upper point of first portion of duodenum and approaching pylorus. Greatly distended duodenum.</p> <p>Transverse colon prolapsed into pelvis.</p> <p>Appendix long, curved toward iliac crest; its tip firmly adherent by fibrous bands to transverse mesocolon forming complete half circle.</p> <p>Cecum long and mobile.</p> <p>Ileum, at point four inches from ileocecal valve, firmly adherent to pelvic floor by fibrous band three inches wide.</p> <p>Pelvic colon firmly anchored above brim of pelvis by three bands.</p>



CASE VII. Fig. 11-a.

- A. Ascending colon.
- B. Enteroptotic transverse colon.
- C. Appendix adherent close to transverse mesocolon, with volvulus cecum.
- D. Terminal ileum.
- E. Broad ileopelvic band.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. VIII. B. Female, 37. Operation, Alston's Private Hospital, May 18, 1914.	<p>Gastric ulcer. Chronic appendicitis. Appendix lying transverse, tip apparently adherent beneath ileal mesentery. Constriction or kink near tip.</p> <p>Band or membrane just above cecum. Probably a small mesenteric band on descending colon.</p> <p>Evidences of adhesions binding iliac sigmoid in iliac fossa.</p>	<p>Ulcer on middle of lesser curvature of stomach.</p> <p>Broad band of old adhesions from inner half of appendix to pelvis. Distal half of appendix free.</p> <p>Adhesions between ascending colon and right parietal peritoneum.</p> <p>Left ovary buried in mass of adhesions which were attached to sigmoid colon, giving it an excessive angle.</p> <p>A light band of adhesion at duodeno-jejunal angle.</p>



CASE VIII. Fig. 12-a.

- A. Twisted appendix.
- B. Very strong band across ascending colon, causing considerable obstruction.
- C. Strong band from appendix to pelvis.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. IX. E. Female, 12. Operation, N. Y. Skin and Cancer Hospital, May 25, 1914.	<p>Duodenal ulcer. Many adhesions extending from duodenum to pylorus.</p> <p>Ileal kink, due to adherent appendix</p> <p>Point of limited mobility of terminal ileum at this place.</p> <p>Patulous ileocecal valve.</p> <p>Appendix evidently kinks when patient is erect, which probably accounts for the poor drainage at tip.</p> <p>Angulation of sigmoid. Some signs of adhesions of sigmoid just above rectum. Moderately redundant sigmoid. Dilated rectum.</p>	<p>Duodenum slightly dilated, showing scar of old ulcer one inch from pylorus. Greater curvature slightly prolapsed.</p> <p>Hepatic flexure of colon drawn up by a band, forming angulation at that point.</p> <p>"Jackson's membrane."</p> <p>Patulous ileocecal valve.</p> <p>Strong band across duodenum just below scar of old ulcer, causing constriction and dilatation.</p> <p>Typical ileo-pelvic band, causing kink.</p> <p>Appendix presented fairly normal appearance on its external surface, but in its interior several small concretions could be palpated.</p>

CASE IX. Fig. 13-a.

- A. Ileopelvic (Lane's) band.
- B. "Jackson's membrane."
- C. Strong band, with angulation of hepatic flexure.
- D. Scar of duodenal ulcer.



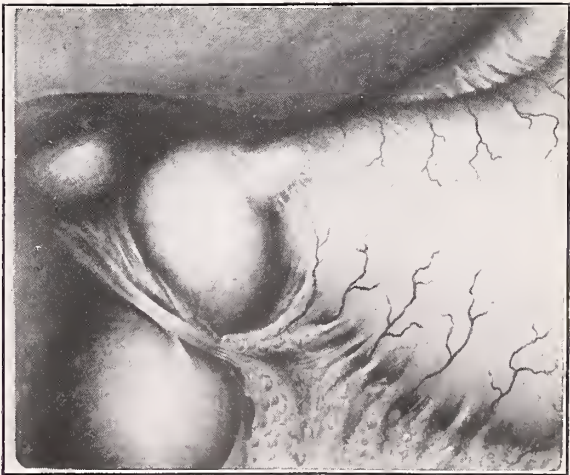
CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. X. B. Male, 32. Referred by Dr. Hermann Eichhorn, New York City. Operation, N. Y. Polyclinic Hospital.	Duodenal ulcer, with incomplete obstruction near apex of conus duodenalis. Dilated duodenum. Evidence of adhesions around cecum and appendix. Acute angulation of splenic flexure; there is probably a band binding the pelvic sigmoid.	Stomach prolapsed well down below umbilicus. Hepatic flexure just above umbilicus. Pyloric ulcer scar. Distinct accentuation of last kink, causing fixation of pelvic colon. Transverse colon prolapsed down into true pelvis. Appendix angulated, but formed no part of ileal stasis. ⁵ Distinct duodeno-jejunal kink. Duodenum markedly dilated. Constricting band across duodenum extending from under surface of liver.

5. Fig. 14-a shows bands about cecum and attachment of appendix to the ileopelvic band.



CASE X. Fig. 14-a.

- A. Heavy bands attaching abdominal wall to ascending colon.
- B. Bands attaching transverse colon to ascending colon.
- C. Angulated appendix attached to edge of ileopelvic band.
- D. Ileopelvic band.
- E. Dilated ileum.
- F. Dilated stomach.



CASE X. Fig. 15-a.

- A. Scarred pylorus, contracted.
- B. Heavy band across duodenum from under surface of gall-bladder to edge of great omentum, causing hour-glass shape of dilated duodenum.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. XI. N. Male, 32. Referred by Dr. William Van Valzah Hayes, New York City. Operation, N. Y. Poly-clinic Hospital, Feb. 11, 1914.	Stomach atonic and dilated. Very prolonged gastric retention due to obstruction of duodenum. Deformity about middle of conus duodenalis. Excessive gastric retention prevented further intestinal examination.	Stomach enlarged, extending clear to blad-der. Angulation of pylorus.

.6 NOTE: Subsequent X-Ray plates showed reduction in size of stomach about one-half. Anticipating such a reduction, the gastro-enterostomy was made, as indicated in Fig. 16-a, (C), so that, after contraction, it would be at the most dependent portion of the stomach.



CASE XI. Fig. 16-a.
A. Greatly dilated stomach, extending to symphysis pubis.
B. Angulation at pylorus.
C. Site of gastroenterostomy.

SOME ASPECTS OF CONGENITAL
SYPHILIS AFFECTING THE
NERVOUS SYSTEM.*

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As is well known, acquired syphilis in its later stages not infrequently manifests itself by its effects on the nervous system, and inherited or congenital syphilis may do the same. Regarding this latter, I would like to call attention to some points of rather special interest that have developed in cases recently observed. The advance in the study of syphilis in the last few years, especially the Wassermann reaction on the blood, the examination of the spinal fluid, and luetin reaction, have enabled us to look deeper into our cases than was heretofore possible and the diagnosis of syphilis no longer depends on the observation of more or less characteristic muco-cutaneous lesions. Syphilitic

lesions, of skin, bone or internal organs, are now recognized as the effects of the spirochete pallidæ, the manifestations of which vary greatly and many conditions are now recognized as syphilitic when formerly their etiology was either unknown or uncertain. In most instances the spirochete can be recovered from the lesions.

The case of hereditary or congenital syphilis was formerly recognized by certain, generally quite obvious, signs such as skin eruptions, snuffles, etc., and children not so affected were regarded as free of the disease. More critical observers also included certain deformities of bones, teeth, etc. as indications of hereditary syphilis, the so-called "stigmata." It was observed, however, that in many cases the children of syphilitic parents did not present these stigmata and, in the absence of other means of diagnosis, the conclusion was drawn that they were free of syphilis. I have made the observation that the same holds true of congenital syphilis as for acquired syphilis; when the central ner-

*Read before the Calhoun County Medical Society, December 2, 1914.

vous system is affected the skin manifestations and ordinary signs of syphilis are often conspicuous by their absence. In these cases, however, other signs are present. I have looked carefully for all the signs which have been considered significant of syphilis and I have noted the signs present in my cases. The result is very interesting as showing that, in congenital syphilis of the nervous system, the signs present are quite different than the signs present in association with congenital lues affecting the skin or viscera. Dr. L. Findlay, of Glasgow¹ in reporting cases of congenital syphilis causing feeble mindedness has also observed this and one of his conclusions is that "in syphilitic idiocy there may be no luetic stigmata." Dr. Findlay does not relate the stigmata he looked for and I can agree with his conclusion only in so far as to say that the ordinary signs, i. e. affecting bone and connective tissue, are absent in these cases. It follows from this that to diagnose such cases by the merely routine examination of teeth, bones and skin is impossible. In fact even laboratory tests in these cases are not conclusive between the time of birth and the development of the symptoms as Grulee² has shown. The diagnosis is best made by careful consideration of all of the clinical aspects of the case.

Another point of interest in the cases reported by Findlay is that the parents of these children denied all knowledge of syphilitic infection and were apparently well. This has frequently been the case in my experience, and in a series of four recently observed cases, not only were the parents well and denied syphilis but a Wassermann reaction of the blood of both parents was reported negative, though the Wassermann reaction of the patient's blood was positive. It may be concluded, therefore, that it is practically useless in diagnosis to rely on a negative history or negative findings in the blood of the parents.

Congenital syphilis of the central nervous system manifests itself in various ways. It may be as epilepsy, feeble-mindedness, or various paralytic phenomena of cerebral origin; or sometimes all three. I can best describe the clinical aspect of some of these cases by summarizing the findings in some recent examples taken chiefly from private practice.

CASE REPORTS.

CASE I. A female child, age 6, first seen October 21, 1914. The parents accompanied the child and were apparently well. The paternal grandmother

died at seventy years, of old age, but the other grandparents, uncles and aunts were living and well. Neurological examinations of the father and mother were negative and the Wassermann reactions on the blood of both father and mother were also negative. The first child of these parents died at the age of two weeks, of convulsions. The patient was born about a month prematurely, without instruments. It was said that until she was three months old she was "yellow." For six weeks after she was born she slept almost continuously. She was breast fed until she was about two years old and always took the breast without trouble, but other food was vomited. When cutting teeth she had fever and sweats and was said to suffer frequently from "prickly heat." When about three months old she began having convulsions and had one about every two weeks until she was six months old, when she had a series of severe convulsions in which she was unconscious for three days. The patient did not develop normally after this. She did not sit up and could not sit alone at the age of six. The first words she spoke when about five years old. Examination showed that she was undersized, distinct veins were noticed in the temporal region and the head was moist with perspiration. She showed more or less continuous, choriform movements. She could speak a few words but not distinctly. Neither eyeball rotated out as far as it should but other extra-ocular movements were normal. There was no distinct nystagmus. The pupils were a little unequal; the left was larger and reacted to light. The reaction of the right pupil was sluggish to light. Both pupils apparently reacted in accommodation. There were frequent facial grimaces but no distinct facial palsy. The teeth were somewhat decayed, otherwise not abnormal. There was no enlargement of the thyroid. Both the arms and legs were spastic and slightly contractured. The tendon reflexes were present but difficult to obtain. Plantar irritation caused extension of the toes. Painful stimuli were well felt. In trying to grasp an object the movements of the hands were extremely ataxic. A Binet-Simon test gave a mental age of four. The ordinary stigmata of congenital lues were absent. A Wassermann reaction on the blood was positive (XXXX).

CASE II. Female, age 5½ years, first seen October 18, 1914. The father and mother, who accompanied the child, were well and denied all knowledge of specific infection. The grandparents, uncles and aunts were living and well. There was no history of paralysis or insanity in the family. The Wassermann reaction on the mother's blood was negative and an examination of the father's blood was also negative. The father's ears were examined by Dr. Canfield, and his eyes by Dr. Slocum, and no signs of syphilis found. The patient was an only child and there was no history of miscarriages; she was born about eighteen months after the marriage of her parents. The birth was assisted with instruments but no distinct traumatism was noticed. The child was about a month premature, weight six and a half pounds at birth, and showed some jaundice for about three weeks. She was well except for some digestive disturbance until five and a half months of age when she had convulsions which lasted all day. Treatment was with hot baths and in the stupor following the convulsions she was thought to be

1. Use of Neosalvarsan in Mental Deficiency. Glasgow Medical Journal, October, 1914, p. 241.

2. American Journal of Medical Science, November, 1914.

dead. By the next day, she had recovered consciousness and seemed to be about the same as before. It was not until three or four months afterwards that it was noticed that she was not sitting up and not using her arms and legs as a normal child should. She did not talk as early as she should, not till the third year. She was sixteen months old when she cut her first teeth. She had no sores nor eruptions on her body. She was not able to stand on her feet until she was five years old and now can only stand with support. She began saying only simple syllables at three years, could repeat the alphabet at four. The patient's father said that her arms had apparently not improved any in usefulness since she was a baby. There was no evidence of pain at any time, no screaming in her sleep. He said that the child was completely relaxed in sleep. The child was fairly well nourished. She could not stand or walk unless held. There was apparent difficulty in looking where she wished which seemed to be due to an ataxia of the eyeball. There was also an ataxia in moving the head. The pupils were somewhat dilated but equal. It could not be determined that they reacted to light and the ocular fundi were not examined. Speech was monosyllabic, also seemed ataxic and was very difficult to understand. The ears were malformed on both sides. There was no scars about the body. The neck was thick and the neck muscles well developed; this was apparently the result of spasmodic torticollis. She had all the first teeth. She was perspiring freely and there was a history of profuse skin eruption called "prickley heat." All four extremities were slightly spastic but more markedly ataxic. The gait was spastic ataxic and was cross legged. All movements were distinctly ataxic and there was constant choreiform movements of the face and extremities. The Wassermann reaction on the blood was positive.

It will be noted that these two cases are almost exactly alike even in details.

CASE III. Female, age 11, first seen July 1, 1914. The father and mother, who accompanied the child, were both well and denied syphilitic infection. The patient was an only child but the mother had had two miscarriages after, and one before this child was born. The mother says that the patient was noticed to be awkward when she first tried to sit up. She was over three years old before she was able to walk and she was two years old before she was able to talk. She had never had convulsions. There was no history of any nervous or mental disease in the family and the Wassermann reaction on the blood of the father and mother were negative. The patient's gait seemed to be awkward and the awkwardness was made somewhat worse by closing the eyes. She replied to questions promptly and was apparently of about normal mentality. She generally held her head considerably retracted. The sternocleidomastoid muscles on both sides were very prominent. There were occasional slow movements of the head; the movements of the extremities were like athetoid movements. Nothing decidedly abnormal in the shape or size of the head was noted. There were some enlarged post-cervical glands. The pupils were equal and they both reacted to light but the left was decidedly sluggish. There was marked difficulty in controlling the eye movements, and

in looking to either the right or the left there developed a wide nystagmus. There was no enlargement of the thyroid. There was no paralysis of the face or tongue. In showing the tongue or drawing back the corners of the mouth there was an exaggeration of the bending back of the head. There was no atrophy or deformity of the arms or hands. The biceps and triceps reflexes were present but diminished on both sides. The patient seemed to have considerable difficulty in relaxing. There was marked adiadococinesia. She felt pinpoint apparently equally well on each hand. There was no atrophy or deformity of the legs. The knee jerks were not obtained on either side. The Achilles reflexes were not obtained on either side. There was an ataxia of both hands in the finger to nose test, not made worse by closing the eyes. The Wassermann reaction on the patient's blood was strongly positive.

It will be noted that the first two cases are alike almost to the last detail. In the third case the patient was older and there was no history of convulsions but there was the same ataxia and choreiform movement and the same findings on examination, which would seem to demonstrate that the convulsions were not a necessary factor in these cases. I would especially call attention to the very good health of the parents and the fact that the Wassermann reaction was negative in the parents in all of these cases.

The next class of cases are those in which symptoms develop in childhood after an apparently normal infancy. These cases are more important than the cases with congenital symptoms for the reason that the diagnosis is even more likely to be overlooked and also for the reason that proper therapy is effective in such cases.

CASE IV. Male, 19 months old, was first seen, June 21, 1911, in consultation with the family physician who, together with other consultants had regarded the case as one of tuberculous meningitis. The father and mother were well. The father at first denied but later admitted that he had had syphilis at the age of 19. The patient was an only child. There had been one miscarriage. The patient was born naturally, began walking and talking at about one year, had never been sick and was regarded as very healthy. Several weeks before I saw him he began to hold his head stiff and turned to the right and at about the same time a discharge was noticed from the ear which lasted about a week then stopped. The child continued to complain of headache; would not walk or sit up; staggered on walking with support and had some vomiting but no convulsions. He was stuporous. Examination showed a fairly well nourished child. The pupils were equal and reacted to light but there was a slight strabismus. There were some enlarged glands in the neck and the head was retracted and turned to the right. The tendon reflexes were normal and there was no Babinski reflex. There was no definite paralysis of the extremities and no Kernig's sign.

Hearing was apparently normal. He was placed on daily inunctions of one dram of mercural ointment and also sirup of the iodide of iron. Improvement was noticed in one week and in three weeks he seemed well. I have heard from the child at intervals since then and he remains well.

CASE V. A boy, age 8, with an entirely negative family history, was said to have had rickets when a baby and corneal ulcers about one year before being seen, Nov. 27, 1913. His sickness apparently began about six weeks before that date, when he complained of dizziness and blind spells, but he continued to go to school. About three weeks later he had an especially severe dizzy spell with headache and became weak in his left side. He seemed to recover from this in a few hours. About a week after this he had a convulsion and was found paralyzed on his right side. He was then unable to talk, to say anything except yes or no. There was no distinct history of fever and no vomiting. When examined the patient was lying quietly in bed and apparently conscious but would not respond to questions or obey commands. The pupils were dilated and reacted very little to light. Accommodation could not be tested. The eyeballs did not turn as far as they should but the extraocular movements were otherwise normal. The right arm was contracted in flexion at the elbow. The contractions could be passively overcome and there was no distinct atrophy. The biceps and triceps reflexes were increased. There was some weakness of the right leg but no contractions. The knee jerks were increased on both sides. The Achilles jerks were prompt on both sides. The Babinski reflex was present on the right, not on the left. The patient's father denied syphilis and said that he was the father of seven healthy children, the patient being the second child. A lumbar puncture showed positive globulin and albumin reactions and a four plus Wassermann reaction on the spinal fluid. The patient was not treated for syphilis and an examination a month later showed about the same findings, though the patient was more emaciated and at this time both legs were spastic.

CASE VI. Female, age 4 years, was seen Oct. 18, 1914, at the patient's home in consultation with the family physician, who had made a diagnosis of tuberculous meningitis. The father, mother and grandparents were well and syphilis was emphatically denied. The child had been considered a very healthy and pretty girl. The first convulsion, epileptiform in character, occurred six weeks before while the child was apparently well, and affected more the left side, which seemed paralyzed for a short time afterwards. One month later she had another convulsion which affected the right side and was followed by weakness on that side. Two weeks later she had still another; and following this a series of attacks. When seen she was apparently conscious but she would not talk and was very irritable when disturbed. She apparently had no headache but vomited as soon as she was forced to sit up. The pupils were equal but reaction to light was questionable and the reaction to accommodation could not be tested. There was no strabismus although the doctor said that there had been. There was no definite paralysis. The tendon reflexes were all normal.

There was no Kernig sign and no Babinski. A physical examination showed nothing abnormal. The urine had a specific gravity of 1018 and contained on sugar, no albumin and no casts. The spinal fluid was clear, showed some increase in lymphocytes, slight globulin reaction, and a positive Wassermann reaction. There were no tubercle bacilli. The treatment suggested was inunctions of mercury and potassium iodide. The patient was not under my observation after this but on October 28 her condition was reported to me as being somewhat better. She had vomited twice but complained of no headache. Stools were normal. Temperature, pulse and respiration normal. She was drowsy but easily aroused and ate well and had no convulsions. On November 5, she again had convulsions and became apparently blind and deaf. Pulse became very slow and irregular and she died in coma.

CASE VII. Female, age 3 years. First seen June 11, 1913. The father had a valvular heart trouble, the mother and one brother were well. There was no history of injury at birth. The patient walked and talked at about the age of one year and was regarded as a healthy infant. The sickness apparently followed whooping cough and muco-colitis. There was no vomiting and no convulsion. The child became emaciated, peevish, gradually grew weak in the legs and arms and could not talk as plainly as before. When examined she was unable to sit or stand, could make no movement in either leg, and there was also marked weakness in the arms. There was no complaint of pain and no pain on movement of the limbs. The knee jerks and Achilles jerks could not be obtained. There seemed to be no localized atrophy, though the arms and legs were extremely wasted. Plantar irritation caused flexion of the toes on both sides. There was no Kernig sign and no retraction of the head. The liver felt enlarged. There was a general brownish discoloration of the body. Sensation to pain was retained in all four extremities. The fundus showed a neuroretinitis of luetic type. A Wassermann reaction on the blood of the mother was negative, on the patient's blood was positive. The father's blood was not taken. The patient was treated with mercury and iodide. On the 30th of July, the same year, the family physician reported a marked improvement.

It will be noticed that Cases IV to VII show considerable variation in the clinical manifestations. For the most part the diagnosis is confused with tuberculous meningitis or anterior poliomyelitis. These cases may completely recover under appropriate treatment but have a tendency to become progressively worse without treatment and are often fatal even in spite of treatment. Just why this difference in the response to treatment is difficult to say but it is very similar to the result of treatment in cases of acquired syphilis of the central nervous system which in some cases rapidly progresses even though energetically treated.

The pathology of the Cases I to III, inclusive, is probably a chronic interstitial encephalitis

such as Virchow described, as early as 1865.³ A short time after v. Gräfe⁴ described similar changes occurring in the cornea and spoke of their relation to the changes described by Virchow in the brain. Although interstitial keratitis has ever since then been recognized as a sign of congenital syphilis the indications of similar changes in the brain have generally been overlooked in this connection. The pathologic changes in Cases IV to VII were probably of the same type although in these cases there is perhaps more meningeal involvement, a meningo-encephalitis, and in this respect they resemble more the brain changes due to acquired syphilis.

Syphilis as a cause of epilepsy is well known. A great many cases formerly regarded as idiopathic epilepsy are found on further investigation to be due to syphilis and in a certain number of cases the syphilis is congenital. These cases are not uncommon and I have seen a large number of them but they are similar in their clinical manifestations and I report only one example.

CASE VIII. A girl, age 17, was first seen in June, 1913, complaining of petitmal epileptic attacks. The father was living and well. The mother was dead, supposedly of anemia. Two brothers were apparently well. There was no family history of epilepsy. The patient had had no other sicknesses and had been regarded as a healthy child. She had had two operations on the nose and a circumcision in endeavors to relieve the attacks. The petitmal attacks began about the age of 13 and, in 1913, she was having them about once a month. There was no other complaints. Examination showed a well nourished girl. The pupils were equal and reacted to light and in accommodation. There was slight nystagmus. The fundi showed a neuroretinitis. Bone conduction was reduced in both ears though the hearing in other respects was normal. The tendon and skin reflexes were normal. There was no paralysis and no sensory changes. The patient had scaphoid scapulae. The diagnosis of hereditary lues was suggested but her home physician did not carry out very energetic treatment. The patient returned to see me October 9, 1914. She was then having grandmal attacks, about two or three times a week, usually at night, also petitmal attacks during the day. The examination showed practically the same findings as before. The Wassermann reaction on the blood was four plus positive. She began receiving treatment by intramuscular injections of mercury on the 12th of October. She had one attack on the first of November and no petitmal attacks at all. On November 16 a Wassermann reaction was reported doubtful on the blood and treatment was stopped temporarily.

Cases of syphilitic epilepsy, whether inherited

or acquired, frequently respond to treatment. My own experience is not sufficiently large or long to say that these cases can be cured but they are unquestionably much benefited by proper treatment and are very refractory cases to ordinary treatment such as bromides, etc.

CONCLUSIONS.

My conclusions which are drawn from other cases under observation and from the literature as well as the cases mentioned above would be:

A negative history for syphilis in the parents of a patient, no matter how carefully inquired into, cannot be trusted to rule out the diagnosis of congenital syphilis of the nervous system.

A negative Wassermann reaction on the blood of both parents is not sufficient to exclude the diagnosis of congenital syphilis of the nervous system.

Mental defect often associated with paralytic and convulsive phenomena is frequently due to congenital syphilis.

The diagnosis in such cases must be made by the peculiar clinical manifestations but it will often be confirmed by a positive Wassermann reaction on the blood or cerebrospinal fluid or both and by the results of therapy. The pathology in such cases is probably a chronic interstitial encephalitis.

There are many cases of meningo-encephalitis and meningo-myelitis occurring in children that are due to inherited syphilis but which are often mistaken for tuberculous meningitis or for poliomyelitis. The clinical findings are the best diagnostic criteria in such cases.

304 South State St.

THE PROGNOSIS OF CANCER OF THE STOMACH.*

JOSEPH H. ANDRIES, M.D.
DETROIT, MICH.

Of all the diseases to which human flesh is heir, cancer stands supreme in inspiring mankind with fear and dread. Its ravages are considered most terrible and the unfortunate victim, afflicted with this disease, has its doom sealed in the eyes of the laity and many physicians.

Only a few years ago tuberculosis had the same power of striking terror into the heart of man. Years ago tubercular patients were consigned to hospitals and sanatoria, treated with doubtful medication, and nursed with com-

3. Virchow's Archiv., Bd. 38, S. 129.

4. Archiv. f. Ophth. Bd. 12, S. 250.

*Read before the Wayne County Medical Society, December 21, 1914.

passion to make the anticipation of death more pleasant. We now know that tuberculosis is a curable disease, if taken in time and properly treated. We are convinced that much has been done and many lives, that inevitably would have succumbed in days gone by, have been saved. We have the facts and proofs in our statistics.

But the word cancer still retains its morbid pessimism. The public has been educated by the profession and the press in matters pertaining to tuberculosis, but the opinion seems prevalent, that cancer and death are almost synonymous. A world wide campaign has been convincing, that the cure of tuberculosis consists mainly in prophylaxis and an early recognition of the disease and that a late diagnosis is equivalent to a fatal termination. Cancer of the stomach is also a curable disease, and to effect a cure, like in tuberculosis, we must rely chiefly upon prophylaxis and an early diagnosis. The layman has been so well instructed, that he never fails to consult a physician when he has persistent cough. Give him the same instruction in regard to cancer, and he will not be satisfied, or content himself with taking dyspepsia tablets and the like for months with persistent stomach trouble, before he subjects himself to professional treatment.

DELAY.

The prognosis of cancer of the stomach is hampered by a late diagnosis. Unnecessary delay cannot be too strongly condemned. At times physicians will stand calmly by, treat a patient without special concern or interest; with diagnostic carelessness call the chronic and the ever returning stomach symptoms dyspepsia, and carry him along with stomachica, until the carcinoma has passed the operatively curable stage. Unfortunately, the treatment of cancer of the stomach has all the horrors of war and pestilence for the patient—the dreaded knife and the operating table. The treatment of tuberculosis is much more acceptable; rest, wholesome food, fresh air, etc. In spite of the fear of an abdominal operation, the constant cry of the surgeon for an early operation in appendicitis has had such an effect in educating the public, that an operative procedure is now seldom refused; on the contrary, when the attending physician hesitates, the operation is suggested by the patient himself or surgical consultation is requested.

Wm. J. Mayo, in giving the reasons why patients with carcinoma of the stomach are left to their fate, divides them into three groups:

1. The supposed prohibitive mortality of the operation itself,
2. The improbability of a cure, providing the operation is successful,
3. The difficulty of securing a sufficiently early diagnosis, upon which to base the operation.

We shall give these three reasons our consideration.

ETIOLOGY AND LOCAL FOCUS.

Cancer is not hereditary, still the predisposition for development of cancer in certain families seems to be more favorable.

Cancer exists in the cancer cell, which single cell has the possibility of unlimited division. The stroma is not cancer in itself, as was believed years ago. It is the barrier of resistance, that hinders the growth of cancer. A cancerous tumor well intergrown with stroma grows with much less rapidity, and this explains why a scirrhus is slow in development and why a cancer of the mamma, that is rich in stroma, can last for years. It also explains why the paste and cautery cures are successful by forming scar tissue at the boundary of the growth and effectively resisting the invasion of the cancer cell.

All cancers are at one time local, and it is definitely known, that cancer during this period is curable; contrary to the one-time belief that cancer is constitutional. The removal of a local growth gives an excellent prognosis, but it is the diagnosis that presents the difficulty in the early stage; i. e. when the growth is still localized. A localized cancer of the stomach gives just as good a prognosis as cancer in any other part of the human system. In other words, if we are able to make the diagnosis and resect a cancer in its inception, before it has spread into other territories, the prognosis is very good.

According to Truesdale,¹ nearly one-half of all cancers have their origin in the stomach, and it is only rarely cured in this location. The fact that cancer is primarily a local disease and permanently curable in its incipency, should be made common knowledge. It should also be made known that it often becomes engrafted upon ulcer.

LYMPHATIC SPREAD.

Heidenhain demonstrated clearly that the spread of cancer is along the lymphatics. He made 17,000 microscopical sections in series and was one of the first to show the growth of cancer through the lymphatics. The height of development of the lymphatics is reached in adolescence

¹ Boston M. & S. Journal, July 10th, 1913.

and, as demonstrated by Charles H. Mayo, they undergo a progressive atrophy in old age. Consequently, the older the patient, the slower the development of cancer.

There are three distinct lymph territories of the stomach:

1. The greater portion of the anterior and posterior wall, which drain to the lesser curvature.
2. Right half of the greater curvature with the pylorus, which drain toward the greater curvature and the pyloric region.
3. The left and upper half of the greater curvature, which drains toward the spleen.

The glands from the pylorus, that drain toward the lesser curvature, can easily be removed. But the resection of the deeper glands is very

CANCER, A SURGICAL DISEASE.

All cancers of the stomach are *ipso facto* surgical diseases, and surgical consultation should be employed, when there is any suspicion of cancer. Surgery is the only means of treatment. Not a single case of cancer of the stomach has as yet been reported, that has been cured by medical means. Appendicitis is considered a surgical disease by almost the entire profession, still many cases recover without an operation. Strangulated hernia is a surgical disease, still, we may have a spontaneous anus forming and the patient makes a recovery without an operation. Cancer of the lip and cancer of the breast may be occasionally cured by pastes and cautery; but cancer of the stomach has not the

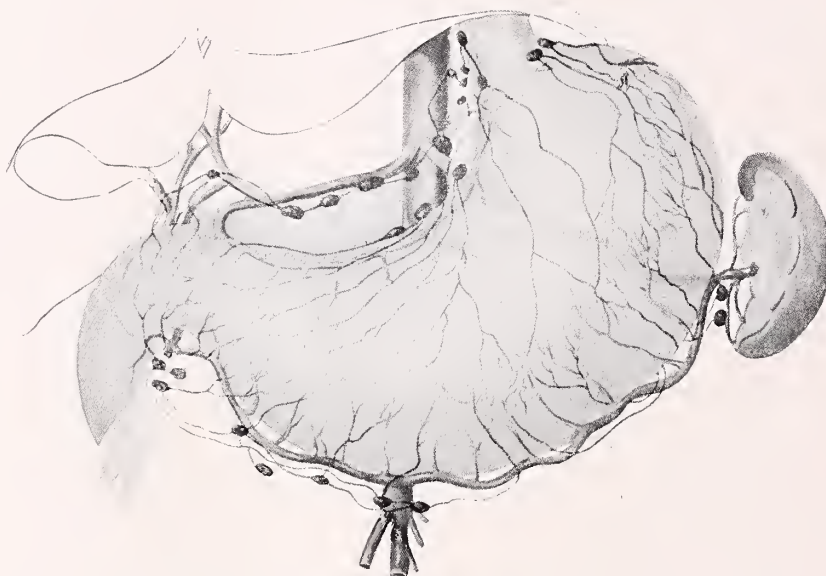


Fig. 1. The arteries and lymphatics of the stomach. Diagrammatic anterior view. (Moynihan.)

difficult, on account of the pancreas and the common duct.

Cancer cells can enter the thoracic duct, pass into the angulus venosus, and in this way be scattered throughout the entire system.

A simple division of the lymphatics of the stomach may be made by drawing a line from the cardiac orifice directly downward, which divides the stomach into two halves. To the left of the line lymphatics drain toward the spleen and around the cardia. Carcinoma in this region is rare. To the right of the line, with the pylorus, they drain toward the lesser and greater curvature, where 80 per cent. of all carcinomata of the stomach occur. This part of the stomach can be more easily palpated and also presents less difficulty of removal.

remotest chance of a cure without the knife. Non-surgical treatment of cancer of the stomach is therefore non-logical.

The great strides in cancer cures and the steadily growing percentage of cures have all been in the organs easily accessible, such as the uterus, lip, breast, etc.

As a result of the popular campaign against cancer in Germany, its people have been educated as to the dangers of the disease, and as to the necessity of an early operation. The consequence is, that the cancer patient in Germany presents himself for operation at an earlier stage than in America, and a higher percentage is operated upon during the early period, with correspondingly better results.

LOCATION AND AIDS IN DIAGNOSIS.

Statistics show that in the male 75 per cent., and in the female 50 per cent. of all cancers are in the alimentary canal.

The stomach is more often involved in cancer than any other part or organ of the body. Thirty per cent. of all cancers in the male, and 22 per cent. in the female have their origin in the stomach.

The aids in diagnosis of incipient cancer of the stomach at the present time are all more or less unreliable. The gastroscope has not yet been perfected for practical use, although a great deal of experimental work is being done by Jackson, Plummer and Janeway.



Fig. 2. The lymphatic areas of the stomach: a, The area from which the lymphatic vessels drain into the coronary glands; b, The area from which the vessels drain into the glands along the greater curvature; c, The "isolated" area. (Moynihan.)

Leucocytosis may be an aid in prognosticating, but is of little value in early diagnosis.

The X-Ray with bismuth injection will sometimes reveal a tumor that could not be palpated, but will rarely show a beginning tumor, that has not given any typical symptoms. It is a great aid in confirming the diagnosis. In the early stage of carcinoma of the stomach, the X-Ray may be a better aid in diagnosis, not because it shows that a cancer is present, but because it shows deformities and muscular deficiencies, that are indicative of cancer.

The examination of stomach contents in the early stage is only of relative value, but not pathognomonic. Gastric contents must be taken in connection with the history and symptoms; alone it is of no positive value. In 1,000 cases

of cancer of the stomach in the Mayo clinic, lactic acid was found in only 43 per cent. of cases, and these were mostly advanced cases.

Blood was found in 73 per cent. cases.

Severe hemorrhage from the mouth in 4 per cent.

Coffee ground vomit in 6.25 per cent.

Hemorrhage from the bowel 9 per cent.

Boas-Oppler bacillus in 93.8 per cent. cases of gastric cancer.

The medical profession has been looking forward with great expectation to the Abderhalden Sero-Enzyme test, as a means of early diagnosis in cancer. That this fond hope has not yet been realized, may be shown by quoting from the paper of Dr. F. W. Baeslack, read before the Section of Dermatology, at the 65th annual session of the American Medical Association:

1. "It is practically impossible to obtain cancer-tissue free from the connective-tissue stroma. The reaction for connective-tissue is the same. This may be the reason why certain serums give positive reactions in other conditions than those clinically apparent.

2. "As the cancer invades an organ, there is usually degeneration of the neighboring tissue-cells, and a consequent occurrence of protective enzymes in the serum of the patient against this cell protein.

3. "In addition the cancer cell may retain traces of the functional activity of the tissue from which it originated.

4. "Finally, the occurrence of protective enzymes in the serum is dependent on the breaking up of the tissue in the blood and on the resorption of such broken-down tissue. Thus, an actively growing neoplasm may not give off cancer protein at all, or may give it in such small quantities, that the enzymes directed against it are not demonstrable. For these reasons the choice of the sero-enzymes diagnosis for neoplasms may not have been a happy one to bring the conflicting conclusions into any relation."

Blood and secretion examinations have not been developed sufficiently to give any reliable test.

The examination of the stomach for occult blood is favorable, because it can be found in the stool and also in the stomach contents. Occult blood can only be taken into consideration, when all sources of bleeding can be eliminated, that might be caused by artificial or mechanical means; as lavage, vomiting, etc. The regular occurrence of occult blood is the most constant and reliable symptom of carcinoma ventriculi.

Out of 110 cases of cancer of the stomach, proven as such by operation,² occult blood was found in 94.55 per cent., anacidity, only in 88.88 per cent., lactic acid in 67.29 per cent., "Faden-

2. Zoepfert, Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie, Vol. XXV.

bacillen" in only 64.35 per cent., palpable tumor in 63.63 per cent. of all cases.

The presence of occult blood in regard to frequency stands foremost of all symptoms for an early recognition of cancer.

Regular presence of occult blood in the stool and stomach contents, when subjective stomach symptoms are present, in all probability may be considered cancer of the stomach, and an indication for exploratory laparotomy.

Ulcer is commonly recognized as the etiologic factor in cancer of the stomach. Keen has shown that no carcinoma of the skin develops without a pre-existing lesion. This statement is also in all likelihood true with cancer of the stomach. In chronic ulcer we have the most common primary cause. It was shown in 218 pathologic specimens of cancer of the stomach at St. Mary's Hospital, Rochester, Minn., that more than one-

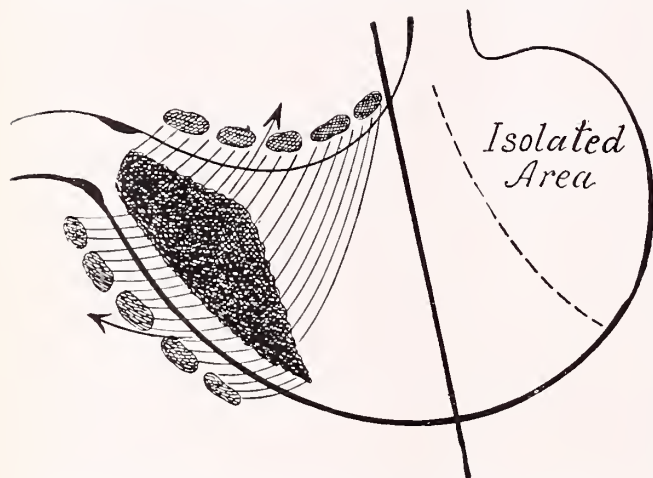


Fig. 3. Diagram to show the mode of spreading of a pyloric cancer, the lymphatic invasion, and the line of division of the stomach in partial gastrectomy. Note especially that the whole lesser curvature is removed. The arrows indicate the direction of the lymphatic currents. (Moynihan.)

half originated in chronic ulcer. Dr. Graham, the internist of this institution, states from recent study, that 50 per cent. of all cancer of the stomach cases have ulcer history. "The fact," he says, "cannot be disputed, that 80 per cent. of all ulcers originate in the pyloric antrum and approximately the same percentage of cancers have this origin. When the surgeon has excised an ulcer, he knows, that he has done something to prevent cancer. Of all the cancers of the human body, none is as hopeless and vicious as carcinoma ventriculi. Chronic caloused ulcers should be excised as a prophylactic measure."

It has been sufficiently proved, that cancer develops on the base of a chronic ulcer in about 71 per cent. of cases. When the clinical diag-

nosis can be made, the operative measures as a rule are of no avail, and it is therefore our duty to forestall this malady by operating in the precancerous stage. This course of procedure is not only warranted on account of the possibility of cancer development, but it is also the best treatment for ulcer; the dangers of hemorrhage, perforation, subphrenic abscess, hour-glass stomach, etc. are absolutely eliminated.

EARLY DIAGNOSIS.

The bad results in operations for cancer of the stomach are due to the late diagnosis. The early stage of cancer of the stomach does not give rise to symptoms, unless the mechanical function of the stomach is interfered with. Cancer of the body of the stomach will give rise to indefinite symptoms and when mechanical obstruction takes place, a surgical cure is out of question; whereas an obstruction in the pyloric end of the stomach usually begins in the early period, and gives a good prognosis, because it is an easily accessible and removable part of the stomach.

The cases of cancer of the stomach are frequently treated at the hospitals in two divisions or departments: medicine and surgery. The patient enters the hospital and is placed in the medical department, because he complains of stomach trouble. After being put through a long period of investigation and laboratory examination, he is finally referred to the surgical department with the positive diagnosis of cancer of the stomach, confirmed with the corresponding laboratory credentials. The doors of the operating room are thrown open, a laparotomy is performed, and the verdict of an absolutely bad prognosis is given on account of inoperability due to the late stage. There is a feeling of disappointment on the medical and surgical side, which is an unquestionable detriment to medical and surgical progress. But the future will bring more co-operation as soon as we are all convinced, that cancer of the stomach is curable only by an early operation.

Waiting for all the signs and symptoms of cancer of the stomach to develop in order to make a convincing diagnosis, means waiting until the case is inoperable. Carrying on laboratory tests in detail, observing the patient for weeks, trying all the different remedies for a long time, and finally coming to the conclusion that the malady is cancerous, is preparing the patient for the morgue.

Early diagnosis of stomach carcinoma, with a subsequent early operation, affords the only

possible chance of a cure; for without surgical intervention the mortality will be 100 per cent. Deaver says: "What is needed most to give a better prognosis of cancer of the stomach is an early diagnosis." He claims, that too much time is lost in laboratory investigation.

The percentage of cases that come to the surgeon for operation is very low.

According to the statistics of the Cancer Commission of the Pennsylvania Medical Society, 68 per cent. superficial cancers were operable at the time they applied to the surgeon, and of the deep seated ones, only 48 per cent.

Making inquiry from several Detroit surgeons gives us the information, that the cases of gastric cancer referred for operation during the operable stage is from 30 to 40 per cent. The remainder are not amenable to surgical treatment or can only have a palliative operation performed. These figures are sufficient to make it clear, that a much larger percentage of cures could be attained, if there were an early diagnosis or an exploratory laparotomy in suspected cases.

During my last nine months of abdominal service at St. Mary's Hospital for cases referred by the municipality, there were approximately fifteen cases of cancer of the stomach. Every patient gave a history of long standing stomach disease and not a single case could be subjected to curative operative treatment on account of the advanced stage.

Metastasis in the liver evidenced by palpation or jaundice gives a poor prognosis.

Metastasis in the portal circulation, causing ascites, gives a poor prognosis.

Metastasis involving the sigmoid, rectum, ovary, etc. gives a poor prognosis.

The size of the tumor and the gravity of the affection do not always correspond. A large tumor may have only a few glands infected; whereas many glands may be infected in a relatively small tumor.

In cancer of the stomach it is not absolute that every enlarged lymph gland be cancerous. Sometimes the larger ones are cancerous and the smaller ones only inflammatory.

OPERATION.

The term "operable" is also much in abuse with the surgeon himself. He often thinks a case operable before the operation, when the recurrence of the disease renders absolute proof, that the case was inoperable. The advancement in discovering cancer of the stomach in the early stage has been but very little. The for-

tunate cases may be those, where the cancer originates at the pylorus and demands an operation, because it causes obstruction at an early stage. In these cases it is not the cancer itself that causes the obstruction, but the inflammation and engorged vessels. At this time the non-operative treatment gives good, but ultimately disastrous results.

Patients frequently have no definite symptoms of their disease, particularly, when there is no obstruction of the gastric contents being emptied into the bowel.

The prevalent idea, that finding a palpable tumor indicates an inoperable condition, has been proven a false conception. A movable tumor is a favorable condition.

Adhesions between the stomach and liver do not influence the prognosis.

Small portions of the pancreas removed, do not make the prognosis poor; but large portions are of serious consequence, on account of hemorrhage and the development of diabetes.

Enlarged lymph glands of both curvatures do not counterindicate, if they can be successfully removed.

Cancer of the fundus seldomly gives symptoms that will enable the surgeon to perform a timely operation, which may also be said of cancers that do not cause an obstruction at the pylorus or cardia.

A palpable tumor in the region of the pylorus, or finding remnants of food in the stomach after eight to ten hours and occult blood are practically the only signs upon which an early diagnosis can be based, if the other clinical findings correspond.

It is here, without waiting for further data, that the exploratory incision is indicated. Benign tumors and ulcer may cause the same clinical conditions, but they also demand surgical interference, and the latter possibility should not be prohibitive possibility.

The success of the operation depends largely on the position of the tumor, when no obstruction is caused. The prognosis is made more favorable by the fact, that about one-half of all cancers, if they do not cause an obstruction, are in a location where they are palpable.

The indication for operation is absolute, if the tumor and the affected glands can be removed; but this can only be positively determined when the abdomen is opened. For this reason exploratory laparotomy should be performed, if there are no distinct counterindications.

According to Wm. J. Mayo, a patient with

cancer of the stomach may be considered inoperable under the following conditions:

1. When cachexia is present, gastric disturbances are progressive, and have lasted over a period of five to six months, and a fixed tumor can be palpated in the left side; i. e. to the left of a line drawn from the cardiac orifice directly downward.

2. Cancer cells in any abdominal organ will have an escape into the abdomen, and by gravity be carried to the bottom of the abdominal cavity. Here they become attached to some other organ, principally the sigmoid and ovary.

3. When there is an enlargement of a group of glands in the supraclavicular fossa, situated around the entrance of the thoracic duct into the angulus venosus, which are palpable carcinomatous glands.

4. The lymphatics can carry carcinomatous cells to the umbilicus, where they form a buttonlike palpable mass. A small portion can be removed under local anesthesia for microscopical examination.

Counter-indications from other organs: Chronic bronchitis, tuberculosis, nephritis, marked diabetes, other serious diseases.

EXPLORATORY LAPAROTOMY.

Exploratory laparotomy is the only method we have at present to definitely diagnose cancer of the stomach in the early stage; in other words, while it is still in the curable stage. If it is not removed in its incipiency, it inevitably terminates fatally.

An exploratory operation may be performed to establish a diagnosis, where the history and other findings warrant the suspicion of a carcinoma. It may also be performed where a tumor is palpable, to determine the possibility of removal.

A patient, who complains of loss of appetite, indigestion, progressive loss of weight, who has lost color, has an anxious expression and is in the cancer age, should be subjected to an exploratory laparotomy in spite of the absence of a palpable tumor, chemical, or X-Ray proof.

The mortality of exploratory operations according to the Mayos is 0.6 of 1 per cent., a convincing evidence that exploratory laparotomy is relatively no hazard to the patient's life.

Complete gastrectomy gives a very poor prognosis. The mortality is very high and there is no case on record, where a patient has lived the five year period.

Partial resection is the best palliative measure and should be preferred to gastro-enterostomy, because recurrence in the stomach is not likely.

MORTALITY.

The census reports for Great Britain show, that, while the population doubled between 1850 and 1905, the cancer mortality increased six

times. In the United States the mortality rate from this disease has risen from nine per one hundred thousand of living in 1850 to seventy-seven in 1909. There were 75,000 registered deaths from cancer in the United States in 1909, and a conservative estimate placed the number of those with the disease and still surviving at 225,000.

Billroth was the first to perform the operations of pylorotomy and partial gastrectomy for the cure of cancer of the stomach. They were prolonged operations with considerable hemorrhage and his mortality was 64 per cent. He was subjected to much criticism. The conservative men, to use the expression of Wm. J. Mayo, "conservative of the *do nothing* type," were horrified at a mortality percentage of 64, but seemed to forget, that their own mortality was 100 per cent. Before his death Billroth said, that his life had been saddened by the many patients with advanced carcinoma, who sought relief at his clinic. If we stop to consider why they came to his clinic we will understand that Billroth was the only man who gave them a chance of life.

An interesting point brought out by the statistics of the Cancer Commission of the Pennsylvania Medical Society, convinces that the percentage mortality could be greatly diminished by prophylaxis. Thirty-nine per cent. of the superficial, and 49 per cent. of the deep seated cancerous patients gave a well defined history of chronic disease of the stomach long before they presented themselves for surgical treatment, which goes to show, that almost one-half would not have developed cancer, if the previous conditions had been given the proper opportunity of having a cure effected.

From 1899 to 1909, the Mayo brothers performed 251 gastric resections for cancer of the stomach with a mortality of 13 per cent.

In 100 consecutive cases Wm. J. Mayo reports a mortality of 7 per cent., and of these 100 cases the last fifty cases show a mortality of only 4 per cent.

From the last report on mortality from excision of cancer of the stomach, the Mayos give the following figures:

The mortality from the operation itself is 10 per cent.

The chance of life for three years is 36 per cent.

The chance of life for five years is 25 per cent., and no doubt these figures included many bad risks. But above all, they are convincing and should be a stimulus to urge an early opera-

tion. Dr. W. L. Rodman says, "Surgery has accomplished much, when we can promise 25 per cent. cures in gastric cancer."

Formerly a patient who remained well for three years was considered cured. The time limit was then extended to five years, although there is no time limit, when the disease may not recur. Nevertheless, the percentage of those remaining well after five years is very large. If cancer develops again after five years, there is no way of determining, whether it is a recurrence of the old malady, or whether a new and entirely independent focus has originated.

"It may be said that with our present means of diagnosis, cancer of the pyloric end of the stomach can be recognized sufficiently early to perform a radical operation in at least half the cases. The mortality is about 10 per cent., depending largely upon the class of the cases accepted for operation. If an early diagnosis has been made and the patient is in good condition, the mortality will be less than 5 per cent. There is a prospect of a five-year cure in about 25 per cent., and a three year cure in 36 per cent., in the case of those who recover from the operation. Comparatively few patients who recover following a resection, fail to get more than one year relief." (Wm J. Mayo).

CONCLUSION.

Whenever there is a well grounded suspicion of cancer of the stomach, an exploratory laparotomy is indicated. As has been stated, an exploratory incision is often the only means of positively determining a malignant condition. Laparotomy for the sake of diagnosis is not a surgical hazard, but often a life saving measure. Should this procedure not reveal a malignant disease, there are, as a rule, other conditions, that need operative treatment. Taking into consideration, that the mortality of an exploratory incision is only 0.6 of 1 per cent., we must come to the conclusion, that we are assuming a great responsibility by not advising an exploratory laparotomy in suspected cases.

The mortality of the operation itself, when cancer has been diagnosed or found upon exploration, should not be an objection to surgical treatment. The success of the operation depends upon the spread of the disease and the time of diagnosis and operation. Statistics on mortality in operating for cancer of the stomach, where death ensues from the operation itself, is 10 per cent., irrespective of the gravity of the cases that were operated upon. This should be an encouragement for the surgical treatment of all cases that have not positively passed the operable stage.

The permanence of cure is also in favor of cancer resection, as the chance of life for the

three year period is 36 per cent., and of the five year period 25 per cent.

From these considerations we may conclude, that cancer of the stomach is an absolutely surgical disease. Statistics prove the fact. Bearing this in mind, and also the fact, that the mortality of cancer of the stomach without an operation is 100 per cent., every effort for an early diagnosis should be made; and if the stomach symptoms at the cancer age do not yield to medical treatment within a reasonably short time, an exploratory laparotomy is imperative to obtain a better prognosis of cancer of the stomach.

DISCUSSION.

DR. ANGUS McLEAN: To arrive at a conclusion as to the value of operations in carcinomata of the stomach and to estimate the value of operations in malignancy of the stomach, we are compelled to obtain our information from the records of the past.

With this in view, I have taken the reports of three of the largest clinics of the world, added their figures together and made an average of the grand total. The figures include twenty-one years of Kroenlein's work in Zurich, ten years of Von Mikulicz work at Breslau and three years work at the Mayo clinic in Rochester. The total number of patients who applied for relief of malignancy of the stomach were 1,350. Of this number 528, or about 39 per cent., were inoperable or only had an exploratory opening made. Those patients operated upon, are divided into two divisions: First, those on whom a palliative operation was done, such as gastro-enterostomy, gastrostomy or jejunostomy. Second, those on whom a curative operation was attempted, such as pylorotomy or a total or partial gastrectomy.

In the first division there were 448 cases, 33 per cent., in the second 379 cases, 28 per cent. This shows that only 28 per cent. applied at the large clinics in time to even attempt a radical operation. This supports the contention of the essayist that an earlier diagnosis must be made before we can hope for anything in the cure of cancer.

The non-operated cases lived about twelve months from the time of the appearance of the first symptoms of the disease.

The palliative cases i. e. gastro-enterostomy, lived about fifteen and one-half months.

The completely operated cases i. e. gastrectomies, lived twenty-five months.

Of the 379 cases in whom a partial or complete gastrectomy, (in the above named clinics) was performed, twenty-six cases were alive and well after three years.

These figures show that of all the cases that applied for relief of cancer of the stomach (1350) less than 30 per cent. were in time for a probable cure. Of the whole 1,350 cases only about 2 per cent. lived more than three years. This 2 per cent. was among the partial gastrectomy cases. The percentage of the partial or complete gastrectomy cases taken alone that lived for three years is $6\frac{2}{3}$ per cent., all demonstrating that, if the percentage of cures in the hands of such men as Kroenlein, Von Mikulicz

and Mayo, is so low something radically wrong is at fault, some great difficulty must still be overcome. This difficulty I believe we are all agreed is *too late a diagnosis* as Dr. Andries has already explained.

Of our own cases of resection of the stomach two are alive and well after two years. Of the palliative cases, the best we can boast of, is nineteen months of comparative comfort. This was a gastro-enterostomy for carcinoma of the pylorus. If these patients are to be cured or their lives lengthened any great period, their trouble must be diagnosed early and prompt surgical interference insisted upon.

FRANK B. WALKER: We must admit that the prognosis in cancer of the stomach is unfavorable under the past and present management of those cases. Heretofore the diagnosis has rested, too often, upon symptoms of advanced disease, such as cachexia, palpable tumor and gastric analysis—a stage in which no known treatment can usually be more than palliative.

At this time surgery offers the only resource, but, in order to secure more favorable prognoses, it must be adopted in an earlier stage. There are, of course, different opinions as to the relation of ulcer and cancer of the stomach. It is protested that the case is not proven but in the light of present day knowledge the circumstantial evidence goes to show that 75 per cent. of gastric cancers are grafted on ulcers, and that a gastric ulcer is a precancerous condition.

The internists are evidently not willing to allow their ulcer cases to be treated surgically as cancer cases but they should, at least, urge their treatment as ulcer cases.

Whether gastric ulcer be due to a perverted physiological function or to mechanical stasis of the pyloric strait, we do not know, but we do know that gastro-jejunostomy done bacteriologically clean and technically perfect results very beneficially in many cases of gastric ulcer.

75 Adelaide St.

STEPHEN HALES.—THE PREACHER PHYSIOLOGIST.

WILLIAM J. STAPLETON, JR., M.D.
DETROIT, MICH.

(Medical Director, Northern Assurance Co., Detroit, Mich.)

“Oliver Wendell Holmes in his ‘Medical Essays’ states: Medicine learned from a Monk how to use antimony, from a Jesuit how to cure agues, from a Frair how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the Eustachian tube, from a dairy maid how to prevent small-pox, and from an old market woman how to catch the itch-insect. It borrowed acupuncture and the Moxa from the Japanese heathen and was taught the use of lobelia by the American savage.”

Medical Essays, 1883, Page 289.

INTRODUCTION.

As an introduction to my paper may I suggest to you that there is no more fascinating

hobby for a medical man than medical history. Of all men, the great men of medicine are the least known. To browse among the old books and read about the trials and tribulations of the pioneers in our arts is to realize how great are the strides made. Garrison’s History of Medicine is the latest book and will prove of great value and interest to every medical student. Take for example the subject of my paper, Stephen Hales. In order to learn about him I first read the brief article in the Encyclopedia Britannica. A suggestion there led me to the public library where after some effort I finally obtained a copy of Volumn IX of British Biography published in MDCCLXXVII. The title page is as follows:

British Biography
or
An Accurate and Impartial Account
of the
Lives and Writings
of
Eminent Persons
in
Great Britain and Ireland
in which

The several incidents and remarkable actions of their lives and the particularities of their deaths that could be collected from history, family memoirs, and records, are related:

A catalogue and specimen of their writings given, with occasional remarks, and their characters delineated with freedom and impartiality.

Vol. IX
MDCCLXXIII.

In this quaint old book I read about Stephen Hales, the celebrated philosophical divine who gave to medicine the first work of blood pressure. Stephen Hales was born in the year 1677 at Rekesbourne in Kent, England on the 7th or 17th day of September. He studied at Cambridge with a view of taking holy orders. Received the degree of M.A. in 1703 and B.D.D. in 1711. One of his most intimate friends was William Stuhely, a well known physician and antiquarian, with whom he studied anatomy, chemistry, etc. In 1708, he was appointed to the perpetual curacy of Teddington in Middlesex where he spent the remainder of his life.

Hales wrote a set of books entitled: “Statistical Essays.” They were three in number. Volumn I, entitled “Vegetable Statics” was published in 1727 and contained the results of his experiments in plant physiology—the loss of water in plants by evaporation—his experi-

*Read December 16, 1914, before Epsilon Chapter, Phi Rho Sigma Fraternity, Detroit, Michigan. Wayne County Medical Society Building.

ments led then to the following: "That plants draw through their leaves some part of their nourishment from the air."

Volume II, in which we are most interested is entitled "Haemostalikes" or an account of some hydraulic and hydrostatical experiments made in blood vessels of animals, and was published in 1733. Here he relates his experiments on the "Force of the Blood" in various animals, its rate of flow, the capacity of different vessels etc. These experiments entitled him to be called one of the pioneers in experimental physiology. Among his other studies was that of a solvent for stone in the bladder and kidneys. He devised a form of forceps for the removal of stone which was said by John Rauby, Surgeon to George III, to render the removal with "great ease and readiness." He also made studies in ventilation especially in regard to jails, hospitals and ships which everyone knows were greatly in need of in those days and I am sorry to say are much needed in many places in the twentieth century.

He invented a "Sea Gauge," a process for distilling fresh water from sea water, for preserving corn from weevil by fumigation with brimstone, and for salting animals whole by passing brine into their blood vessels.

He wrote a pamphlet entitled: "Admonition to the Drinkers of Gin, Brandy, Etc." which has been reprinted several times.

His methods of experimentings are of interest. Hales fastened a long glass tube inside the artery of a horse and thus devised the first manometer or tonometer. By means of this he made quantitative estimates of the blood pressure, the capacity of the heart, and the velocity of the blood current. These experiments are practically the same that have been used by modern experimenters in this field. Hales made the first real advance between Harvey and Poisenille.

Dogs were used quite extensively by Hales in his experimental work. In the old English is the following: "Having exercised his skill in the dissection of dogs, Mr. Hales contrived a method of obtaining a preparation of the lungs in lead, several specimens of which were preserved. He placed a musket barrel over a pan of lighted charecoal, so as to be kept in an equal and pretty considerably degree of heat; he then took the lungs of a dog, with the windpipe, and having fastened the windpipe very closely to the touch hole of the barrel, he applied a pair of bellows to the muzzle and thus poured a stream of hot air through the barrel into the

lungs. By continuing this for about an hour, so as to keep the lungs always inflated, they were at length perfectly dried in an inflated state. They were then properly placed as a mold and melted lead was poured into them to macerate, then whole substance washed off, and left a perfect cast in lead of all their fine pipes and cavities in all their various convulsions and in their natural situation with respect to each other."

His biographer states that his book, Vol. II, was dedicated to the King and naively adds:

His references, in particular, abound with a variety of ingenious conjecture, of such consequence, that even those circumstances of his undertaking, which could not but be very difficult to a person of his humane and tender disposition, did not deter him from pursuing his experiments, being conscious *in the hands of those skilled of physic, they might be of great service in explaining many of the various cases which occur in so complicated a subject, as in the human body.*

Those on the stone were made with a like view of becoming beneficial to mankind, by alleviating at least, if not entirely preventing, the terrible disorders arising from it, and the whole is applied, in a manner, becoming a clergyman, to illustrate the Wisdom of the Divine Architect, whose hand is visible in every part of the nature.

In 1732, he was appointed one of the trustees for the establishing of a new colony in Georgia. In 1733, he was honored by receiving the degree of D.D. from Oxford. From that time on he continued his experiments being honored by various societies.

Hales lived to be 84 years of age and died on January 4, 1761.

Archbishop Secker in a sermon before London Infirmary in 1754 stated:

"Dr. Stephen Hales was an ornament to his profession as a clergyman and to his country as a philosopher. 'That industry and patient thinking' was his only secret by which he was enabled to trace the wonderful analysis of nature."

Such was the truly and excellent man, whom Mr. Pope has so justly celebrated under the title of "Plain Parson Hales" and who as the Poet's Reverend Annotator observes was "not more estimable for his useful discoveries as a Natural Philosopher, than for his exemplary life and pastoral chanty as a Parish Priest."

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THE WAYNE COUNTY MEDICAL SOCIETY CLUB HOUSE.

We are publishing herewith a few photographic glimpses of the Club House of the Wayne County Medical Society. Our object in doing so is to first impart to those who have

living and departing, lends to the place a modernity out of accord with the massive cast brass chandeliers, the heavily timbered mantels and other reminders of the affluence of former generations. Here, plainly, is a hive of industry in what to all outward appearances might be the abode of some staid Detroitier to whom the rush and turmoil of business was unknown.

There are plenty of reasons why life and activity should manifest themselves hereabouts almost any hour of the day or night. Put seven hundred and forty men in a club and you have the nucleus of an organization that will be heard from. When the membership is made up of such live wires as the physicians who hold allegiance to the Wayne County Medical Society there is certain to be something doing.

The establishment of this club has meant more to the local medical profession than many of them realize; and in this very fact the promoters of the association who labored so zealously for its establishment have reaped their richest dividends—only satisfaction, to be sure; but what pays any better in the long run?

"Do you know," said a physician whose name is a household word in Detroit, laying down a late copy of a medical journal and stretching himself out in an easy chair in the reading room on the second floor of the club house, "this place has done more to raise the standard of the medical profession in Detroit than all other agencies combined. And here is the way it has been done. When we first opened I watched with interest the attitude of those who came. A man I knew would call me aside. 'Who's that fellow over there?' he would ask, indicating another caller. When told his name, nine times out of ten he would remark, 'H'm. I never heard of him. What's his specialty?' In a few minutes those two physicians were acquainted, and were talking over professional matters. A fraternal spirit was one of the first things we set out to inculcate; and whereas when we first opened the clubhouse few members of the profession, outside of some of us oldtimers, had more than a speaking acquaintance with others, now we are more like one big family than anything else. The little professional jealousies that once eroded out rarely manifest themselves, and from the wider acquaintanceship promoted there has come a better feeling all along the line that has been beneficial alike to the profession and the general public."

OFFERS SOCIAL FEATURES.

If any member of the association fails to derive benefit therefrom it is due to the fact



The Wayne County Society Club Building.

never seen this admirable building an idea of the extent and conveniences of this building that is enjoyed by every member of the Wayne County Society; and, secondly to possibly stimulate other local societies to secure a similar club house for the use and enjoyment of their members.

Four inconspicuous lines lettered across a lower corner of the vestibule at 33 High street east give the only inkling to an outsider of the purpose to which what was once one of the finest private homes in an aristocratic locality is now devoted. However, the moment one crosses the threshold, and steps into the spacious hall, there comes a realization that while still a home, it is not that of a private individual. The hum of voices, the insistent jingle of a telephone bell, the men who are constantly ar-

that he does not make use of the clubhouse, where every facility is afforded both for social and professional advancement. The club feature is everywhere in evidence. There is a cafe, where it is not an uncommon thing to find seventy-five to one hundred doctors assembled at noon, while as many as three hundred have been served at evening functions. There are lounging and game rooms, where members can indulge in a social chat or pit their skill at popular pastimes against that of professional acquaintances. The house is always open, and there is a constant arrival and departure of physicians who have dropped in for a few min-

the advancement of the common cause. Today in the fireproof stack room there are 15,000 volumes of medical works, constituting one of the finest collections in the country, in charge of Miss Jane White, librarian. Fully 10,000 of these were contributed by members of the society. A branch of the public library is maintained here.

SOCIETY OWNS HOME.

There is also a reading room, where some hundred leading medical publications are constantly available.

The same spirit that led to the establishment



Auditorium.

utes' respite from the arduous demands of their profession, or to brush up a bit on some disputed point by having recourse to the library maintained here.

This library, by the way, is a notable feature, and for obvious reasons is the most treasured possession of the society.

In the days of the old organization which preceded the present body, some 5,000 volumes, the most of which belonged to the city, were housed in the Wayne county building, in rooms tenanted by the Society. Here the public could never have sought them out. They were inaccessible even to many members of the profession, while the quarters possessed no attractions aside from the library feature. No provision was made for an attendant, and as a consequence books wanted could often be found only after laborious search. This resulted in the books finally being turned back to the public library.

When the Wayne County Medical Society moved into its present home the public library was requisitioned for these works. The request was granted, and with these as a beginning a canvass was instituted among the membership for enlarged facilities. Physicians delved into their private libraries and contributed generously of costly medical works, donating them for



A View of the Reading Room.

of this great medical library made it possible for the Society to own its home. Dr. Arthur D. Holmes is credited with being the father of the idea. Dr. Holmes conceived the idea of a place where Detroit medics could meet in a fraternal way. Immediately he began a campaign for funds. Physicians were approached and asked to pledge a given amount, payable in annual instalments. They responded generously, and on the strength of the prospects the property on High street east was purchased. Within two years \$20,000 had been raised in this manner with which to pay for the building and equipment. At the end of another year there was a surplus of \$12,000 or \$15,000, and borrowing a sufficient amount to make up the difference, the Society began the erection of a \$35,000 addition, which contains among other

things the library and an auditorium capable of seating 425 persons.

The Society is in a flourishing financial condition, and expects to discharge all outstanding obligations in due season.

Coincident with the occupancy of the new home came a marked increase in membership. The best that could be attained under the old order of things was 300. Now there are 740, which takes in practically every member of the medical profession in Wayne county in good standing. Not every physician can become affiliated with the Society, mind you. There are rigid qualification for admission, and they are adhered to strictly. In this way the standard is maintained, and membership represents a clean bill of health that means much.

Although occupying its present quarters only about four years, the Society has assets of \$70,000.



A View of the Library Stack Room.

MANY OTHER ACTIVITIES.

If the Wayne County Medical Society was the sole occupant of the building there would be no lack of animation. However, this is a common center for various activities that have to do with the conservation of public health, all more or less closely related to the work of the Society.

An integral part of the Society, yet in a sense separate, the women physicians have a

club room of their own, where they hold their business sessions.

The Nurses' Central Directory has a room here as its headquarters, and nobody but the physician knows how much that means to the profession. Formerly it was necessary for a doctor to call up from the list of names in his possession. Now, nurses are much like other humans. They have their preferences in the nature of the cases they handle. It used to be that a doctor would have to call a half dozen nurses before one could be found that would take the case. Now he merely calls the Nurse's Central Directory, where 400 nurses are registered and classified according to their references and capabilities, states the nature of the demand, and is furnished an attendant exactly suited to the requirements.

Detroit Clinical Laboratory is quartered in the building. The dentists, the fraternities from the Detroit College of Medicine, Detroit Drug Club, Good Health League and other bodies make this a meeting place. Grace and Harper hospitals hold their staff meetings here. And on the nights when regular sessions of the Society are held the auditorium is filled with the flower of the local medical profession.

What has been done in Detroit may also be accomplished in Saginaw, Kalamazoo, Bay City, Grand Rapids, Jackson, Battle Creek and several other of our larger cities. Possibly not on such a pretentious scale as has Wayne county enacted; nevertheless, with the exhibition of the true spirit and energy local medical clubs are possible and the establishment of a permanent home for our local medical societies will secure the realization of similar benefits as have accrued from the establishment of this complete club building now owned by the Wayne County Medical Society. It requires the effort and work of but a few men in your individual locality.

Stomach Bitters.—Experiments conducted by A. J. Carlson and his co-workers at the University of Chicago show that the wide-spread use of bitter drugs as a means of stimulating the appetite or aiding digestion is a therapeutic fallacy. He finds that such drugs as gentian, quassia, calumba, hops, condurango and the elixir of quinin, strychnin, and iron do not increase hunger contractions of the stomach and the related phenomenon nor induce increased secretion of hydrochloric acid or pepsin (*Jour. A.M.A.*, Jan. 2, 1915, p. 58).

Bannerman's Intravenous Solution.—This solution was refused recognition by the Council on Pharmacy

and Chemistry because vague, indefinite and misleading statements were made regarding its composition, because it was recommended for anemia, tuberculosis and syphilis under grossly exaggerated and unwarranted claims and because the intravenous injection of complex and indefinite mixtures is unscientific and dangerous. The proprietors having submitted to the Council a revised statement of composition and a revised advertising circular, Bannerman's Intravenous Solution was again refused recognition, partly because the statement of composition was unsatisfactory but mainly because of the unscientific character of the solution and the unwarranted therapeutic claims which are made for it (*Jour. A.M.A.*, Jan. 2, 1915, p. 70).

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, January 13, 1915

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

TUBERCULOUS MENINGITIS AND TABES DORSALIS IN A WOMAN EIGHT MONTHS PREGNANT. DEATH DUE TO LOBAR PNEUMONIA. NECROPSY.

CARL D. CAMP, M.D.

(From the Neurologic Clinic, University Hospital, Ann Arbor, Michigan.)

The case to be reported presents several points of interest which may be summarized as follows: First, reports of the occurrence of tuberculous meningitis in association with tabes dorsalis are rare. It has been claimed that there is a certain antagonism between the infections with syphilis and tuberculosis but such has not been my experience. Second, there are several interesting points in connection with the clinical diagnosis, in addition to the demonstration of the double infection which was made antemortem and confirmed by necropsy, such as the complications of pregnancy and lobar pneumonia. Third, the distribution of the syphilitic and tuberculous lesions as shown by the necropsy.

The patient, a Mrs. B. B., age 29 years, was admitted to the Neurologic Clinic of the Hospital of the University of Michigan on July 31, 1914, as a case of puerperal psychosis, the diagnosis being based on an active delirium and visual hallucinations which had come on suddenly the day before. It was learned from the husband that she had been apparently normal mentally before that time. At first she had acted hysterically, laughing, crying, etc. and for this she was given morphine and hyoscine. A careful consideration of the mental symptoms present at the time of her admission led to the opinion that they were due to hyoscine intoxication in possibly an hysterical individual rather than to either puerperal psychosis or toxemia of pregnancy, an opinion which was justified by

the fact that all the mental symptoms disappeared in the course of the next forty-eight hours.

There was no history of insanity in the family. Her father and mother were living and well, though the father was of a nervous type. One brother was living and well. The paternal grandfather died of apoplexy and the paternal grandmother died of cancer. The patient had been married in June, 1913, and her husband said that he was entirely well and denied venereal disease. The patient became pregnant in December, 1913. The patient said that she had had measles, mumps and chicken-pox but no other diseases. She said that she had always been nervous. Menstruation was not established until she was eighteen years of age and was then irregular and painful. She said that she had a "bilious attack" in 1911, of six weeks duration, and was not so well afterwards. In October, 1913, she had an attack of pain in the abdomen and headache, diagnosed as a bilious attack. She had similar spells in December, 1913, and in February, 1914. In April, 1914, she had an attack lasting three weeks and shortly afterward another similar attack. The last attack began about July 24, the chief complaints being headache, vomiting, general aches and pains.

At an examination the day after her admission to the Hospital it was noted that she seemed a little confused mentally but was well oriented for time and place, replied promptly to questions and showed no gross memory disturbance. She was fairly well nourished. Her pupils did not react to light but did react in accommodation. Neither eyeball would turn out as far as it should and there was a low grade neuroretinitis in both eyes. She complained of some tenderness on pressure on the cervical spine. The knee jerks and Achilles jerks were not obtained on either side. There were some

vague sensory disturbances in the feet and her gait and station were not tested. The plantar reflex was flexion and her neurologic examination in other respects negative. Physical examination of the chest was negative. The fundus of the uterus rose to three finger breadths above the umbilicus and fetal heart sounds were distinct. The urine had a specific gravity of 1011. Albumin and glucose were not present. There were some hyaline and granular casts. A blood count showed red blood cells, 3,460,000; white blood cells, 5,600; hemoglobin 75 per cent. A Wassermann examination of the blood was negative.

The findings on examination were sufficient to justify the diagnoses of *tabes dorsalis* complicated by pregnancy, the pains in the abdomen and vomiting being considered gastric crises. Some additional emphasis was given this diagnosis by a neurologic examination of the patient's husband, which showed Argyll-Robertson pupils with pallor of the optic nerve head and diminished knee jerks. A Wassermann test of his blood was also negative.

The patient's temperature varied from 101 to 103°, pulse 94 to 106, and respiration 20 to 25 per minute. As the rise in temperature could only be explained by some other complication she was referred to the clinic of obstetrics and the clinic of otology but the examination of these clinics showed no cause for the fever.

A lumbar puncture showed the spinal fluid to be under considerable pressure. It was cloudy and very slightly yellowish in color. The cell count showed about 2000 per cubic millimeter which a stained smear showed to be about an equal number of lymphocytes and leucocytes. No red blood cells were seen. The Nonne-Apelt reaction, phase I and phase II, were both positive. Fehling's solution was not reduced. Tubercle bacilli were present and the Wassermann reaction was strongly positive.

She continued to have the same symptoms until August 5, at times seeming a little more comfortable. On the morning of this day she became stuporous. There was no additional rise in temperature but the pulse rate went to 160 and the respiration to 62 per minute. She lay on her side with head retracted. Her neck was only slightly stiff, however. The pupils were equal and did not react to light. There was no paralysis anywhere but sensation could not be accurately tested. The knee jerks and Achilles jerks were absent. The fetal heart sounds could not be heard. She gradually grew weaker and died August 6, 1914.

The main points noted at the autopsy were: Body emaciated. No bed sores. Uterus pregnant with an eight-months female fetus. The left lung solidified-pneumonia. An old tuberculous pleurisy of the left lung with adhesions and a scar with caseated tubercle in the center. Adrenal showed some nodules possibly tuberculous. There appeared to be a sclerosis of the heart muscle. The brain showed a purulent exudate covering the base and there was some congestion of the convexity. The spinal meninges were greatly congested. The brain and spinal cord were preserved and microscopic examination showed chronic meningitis at the base of the brain and of the spinal cord and tabetic degeneration in the posterior columns of the cord. Dr. A. S. Warthin's report on the examination of the other tissues was: "Lobar pneumonia. Chronic tuberculosis of bronchial glands. Miliary tubercles in the lungs, liver, spleen and peritoneum. Caseation of one adrenal. Pregnancy, eight months. Syphilitic chorionitis. Syphilitic myocarditis."

The pathologic diagnosis of tuberculous meningitis and *tabes dorsalis* is confirmed by the additional evidence of tabetic degeneration in the spinal cord; the positive Wassermann reaction on the spinal fluid as well as the finding of tubercle bacilli there; the signs of *tabes* in the husband of the patient; and the finding of both tuberculous and syphilitic lesions in other parts of the body by Dr. Warthin.

Although I have only briefly summarized our examinations of this case, it will be noticed that the signs of each of the conditions present were clear and the diagnosis easily made even though the clinical picture as a whole was confusing. The most instructive features of the examination were the neurologic findings in the patient's husband as well as in the patient herself and the complete examination of the spinal fluid. The onset of the pneumonia was not attended with any apparent increase in the fever but only by dyspnea and tachycardia and for this reason it was thought to be a terminal, hypostatic pneumonia rather than a lobar pneumonia as was found postmortem. The distribution of the tuberculous lesions would indicate that the pleuritic affection was the oldest, although we could obtain no history of pleurisy from the patient.

I am especially interested in the distribution of the syphilitic lesions, i. e. in the nervous system, the heart muscle and the placenta. I have recently studied some cases of hereditary syphilis affecting the nervous system and as a

part of these studies have examined the parents of these patients. I have found that in such cases the evidence of syphilis in the parents may also be practically limited to the nervous system. If the child of this mother had been born it would no doubt have shown signs of hereditary syphilis, although the parent would have been free of lesions except in the heart muscle and central nervous system.

DISCUSSION.

DR. UDO J. WILE: I should like to ask Dr. Camp how old this patient was and whether he had ever seen a patient with tabes pregnant before.

DR. CAMP: I have never seen a pregnant patient with tabes, but there are recent cases in the literature, and they have given rise to some interesting conditions in labor, the latter being entirely painless. The patient was 29 years old.

DR. F. M. LOOMIS: I should like to add a most irrelevant note to the effect that hyoscine and morphine do produce the most marked mental disturbances. Only this morning a woman who had received a single dose of hyoscine announced very definitely to the nurses and students present that to her own knowledge Dr. Loomis himself had that morning been personally delivered of twins.

SOME PHASES OF THE INFANTILE PARALYSIS PROBLEM.

CHAS. L. WASHBURNE, M.D.

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During the past century epidemics of acute poliomyelitis have been reported from all parts of the world. Early reports show a small number of cases scattered over a large expanse of territory. The first American epidemic of any magnitude was one of 132 cases, with eighteen deaths, at Rutland, Vt., reported in the *New York Medical Record* of 1894. In the period from 1904 to 1907, more than 3,000 cases were reported in pandemic form in Norway and Sweden with a 10 per cent. mortality. During the year 1907 thousands of cases occurred in this country from Massachusetts to Florida and westward to Wisconsin. From 1907 to 1910 large epidemics occurred in the following states.

1910	Massachusetts	843
1910	Minnesota	1,000
1910	Pennsylvania	1,006
1910	Washington	225

The state of Michigan has been comparatively free from epidemics of great magnitude, due either to lack of efficiency in reporting these cases or to their scattered distribution. Three small epidemics have been reported; one from Oceana county, in 1907 of twenty cases; one of thirty cases from Flint and vicinity in 1908; and a third of seventy-two cases from Hillsdale in 1910. In every community of this state there are sporadic cases appearing from time to time. The remarkable uniform distribution of this disease can thus be understood. Fully 50 per cent. of all deformities entering the University Hospital are directly due to poliomyelitis. They comprise a class of cases, the treatment of which is satisfactory neither to the parents nor to the physician. The histories show that the condition has been improperly diagnosed in nearly 50 per cent. of all cases and almost never has any attempt been made to prevent the deformities. The uniform appearance of this disease has been so recent and the literature on the subject so technical that the practitioner has been made to feel that the recognition and treatment of the condition require special training and experience.

Much speculation is rife as to the method of the communication of the disease. Many careful observers have shown that it may be carried and transmitted by the stable fly, bed bug, the flea, domestic animals and poultry and by direct contact from patient to patient. Flexner's experiments on monkeys have definitely shown that the virus may exist in the spinal cord and brain and in the mucous discharges from the nose and the intestine. The virus has been shown incapable of infecting monkeys through the unbroken skin, the mucous surfaces of the alimentary canal and lungs. Flexner has also shown that it is possible to inoculate monkeys through the nasal mucous membrane and regards this as the avenue of ingress and egress in the human species, due to the intimate lymphatic connection along the olfactory nerve bulbs to the lymph spaces about the brain.

In order to treat the condition satisfactorily, a thorough understanding of the pathology is essential. We need first to dispel the prevalent idea that poliomyelitis is a local, central nervous disease, and come to understand that it is a systemic general toxemia, with selective prefer-

Year	State	No. of Cases
1907	New York	2,500
1908	Wisconsin	1,000
1909	Massachusetts	923
1909	Minnesota	1,100
1909	Nebraska	1,000
1910	District of Columbia	500
1910	Indiana	500
1910	Iowa	654
1910	Maryland	300

ences for the central nervous system. There is also uniform inflammation of not only the gray matter of the cord, but also the pia, medulla, pons and central ganglia, extending to the cortex of the brain. The anterior horn cells seem to be the part most susceptible to permanent injury.

The bloodvessels show a characteristic round called infiltration. In places the vessel walls degenerate and extravasations of red blood cells occur, causing stasis and compression, resulting in the degeneration of interstitial tissues. Softening, edema and final destruction of the ganglionic centers follow with subsequent cicatrization of the areas affected.

Wickman describes the process of secondary infection of the gray matter as an extension by continuity from infected bloodvessel sheaths, passing through the infected pia-arachnoid membrane and developing its greatest intensity in the gray matter of the cord. The infiltration has been found to be most marked in the lumbar and sacral enlargements. This is probably due to the increased compensatory circulation of these parts or to the greater range of activity of the musculature which they supply, and a corresponding over-irritation of the affected areas during recovery.

Lumbar puncture shows the presence of the virus in the cerebro-spinal fluid of monkeys before the onset of paralysis, but later examinations have shown the fluid to be sterile. Frazier, in a report of 126 examinations of the cerebro-spinal fluid, finds it usually clear, colorless and under slight pressure. In the early stages there was usually found some increase in mononuclear lymphocytes. He concludes that the routine examination of cerebrospinal fluid may be of value in early diagnosis, but has no value as a prognostic sign. As evidence of general infection, the spleen is enlarged and congested. The liver shows parenchymatous degeneration. The kidneys show cloudy swelling and the blood shows a loss of hemoglobin and other signs of hemolysis.

Diagnosis and Promising Forms of Treatment.—In the epidemic form, the diagnosis gives no trouble. It is to the sporadic cases that we must look more carefully if we would prevent the development of epidemics. The period of incubation has not been definitely determined. From two to ten days should be accepted as the most probable period in the human subject.

The prodromal symptoms resemble those of other acute infectious diseases. A period of

irritability and marked malaise with slight dizziness and headache are early signs. The patient develops an ataxia and often falls. To this fact we are indebted for the frequent traumatic histories given by the patients and friends as causes of the paralysis. It is difficult to convince friends of these patients that the injury is a result of the disease rather than a cause of paralysis. Many cases give histories of trauma in various forms, for example: Grace B. had not been feeling well for two days. Fell while skating, striking in a sitting position. She walked home and next morning was unable to stand. Had a temperature of 101°. Both legs were involved and she was unable to walk. There was marked tenderness of body and limbs on movement. She was treated by a chiropractic physician for displaced lumbar vertebrae with marked improvement (?). Two years later came to the University Hospital. Examination showed paralysis of anterior groups of both legs with resulting foot drop. A diagnosis of polio paralysis was made. The parents of this child had been advised to bring suit for damages against the owner of the skating rink and came to the Hospital for confirmatory evidences of spinal injury, which they were unable to obtain.

The general treatment during the febrile stage should be emphasized for teaching what not to do. Rest, fresh air, light, nourishing diet and brisk saline cathartics are always indicated. Drugs given with the intention of sterilizing the cerebrospinal fluid are not only useless, but often harmful. Urotropin, so highly advocated by some observers, would be better left ungiven after the onset of the disease; as a routine prophylactic measure it is of doubtful value. The central nervous system and excretory organs have sufficient to contend with without being called upon to combat the harmful effects of formalin. No one has ever given the least proof that urotropin has any effect whatever in checking the course of the disease. The early use of strychnine cannot be too much condemned. There is present a condition of inflammatory hemorrhagic meningomyelitis and any thing which tends to stimulate or render more excitable the nerve substance, already over stimulated, seems bad practice. The recent work of Flexner and Noguchi in successfully cultivating the organism of poliomyelitis in artificial culture has added greatly to the possibilities of treatment. Experimental poliomyelitis has been produced in monkeys by injections of artificially grown virus. Research has reached the stage where the development of a vaccine

or anti-toxin may be hopefully looked for in the near future. The permanent injury which follows so closely after the onset of the disease and in most cases before a diagnosis is made, renders a prophylactic form of treatment the most promising.

Stage of Neuritis.—Following the acute febrile stage with no definite line of demarcation, is a stage of acute tenderness. Any manipulation of the patient causes severe pain. Until this condition has subsided, no form of massage or manipulation should be resorted to. We do not treat other forms of neuritis by constantly irritating the parts affected, and if we wish the least possible permanent paralysis, we should keep these patients in a condition of absolute rest until all tenderness has disappeared. The tenderness may last from three to six weeks and during that time, we advocate putting the limbs in the corrected walking position and fixing them in that position on posterior right angle splints, well padded with cotton. The bed should have a firm soft mattress that the spine may be as stationary as possible. Deformities of the knee and ankle develop during this stage for several reasons. Take for example a case of involvement of the anterior groups of both leg and thigh; here an equinus may develop; first, because of gravity assisted by the weight of bed clothing resting on the toes; second, because of the weakness of the muscles involved; and third, because of the excessive contraction of the overstimulated unopposed, strong, posterior muscles. This contraction causes pain, which the patient makes an effort to avoid by flexing the knee, and here is the beginning of hamstring contraction. Two laws are here applicable: One, an unopposed muscle tendon will shorten until balance is restored by resistance of the periarticular structures; Two, a muscle in a paretic condition, if allowed to become stretched, will not return to its former position and length even though its function is restored. Bearing these facts in mind, if we wish to treat these conditions satisfactorily and prevent deformity, we must splint our patients during the stage of neuritis and not be led away by the glamour of the faradic current, manipulation and massage. It is the general practitioner, who sees these cases in their incipency and to him we must look not only for our useful statistics, but for the prevention of deformities. It ought never to be necessary to employ cutting operations for the corrections of fixed deformities, if the proper treatment is employed during the early stage of the disease.

The Convalescent Period.—After the stage of neuritis has passed, it is a good rule to get the patient on his feet as soon as possible, employing when necessary such splints and braces as may be needed to prevent faulty positions, which later lead to fixed deformities. Any loss of muscle balance should be compensated for by appliances, and these should be fitted early and used until complete restoration of function or, in case of permanent paralysis, as long as necessary. Massage, electricity and muscle training may have their advocates, but from a practical standpoint, it would seem that the best forms of massage and muscle training are those brought about by the patient himself in exercising his limbs in as nearly as possible their normal function.

It is not within the province of this brief paper to cover the intricate and ever changing ground of surgical treatment of deformities. Several operations have been generally recognized as of permanent usefulness. Arthrodesis is of value in treating joints partially or not at all under the control of normal muscle groups, producing a permanent ankylosis in a useful position. This operation should never be done before the bones have reached their adult length, because of the liability of injury to the growth centers and subsequent lack of development.

Tendon transference is applicable in properly selected cases as a means of partially restoring function. This operation we have found most useful about the ankle joint, selecting those tendons whose actions most closely correspond to the paralysed muscles they are to replace.

Paraffine silk is successfully used to lengthen transferred tendons and to fix flail joints in a useful position. This operation requires perfect asepsis and careful attention to detail in order to produce satisfactory results.

Tenotomies are useful in correcting bad contraction deformities at the knee and ankle. This operation has been greatly abused in the past and in the hands of careful workmen is now used only when absolutely necessary. Many contracted tendons can be successfully stretched and the limb rendered more useful because the maximum of power has not been impaired by promiscuous tenotomy operations. Nerve grafting has marked possibilities, but as yet is too much in the experimental stage to be generally advocated.

Sociologic Status of Poliomyelitis.—The crying need of the times is for the state and national governments to assume as great a degree

of responsibility in checking the spread of this disease as they have already taken upon themselves in the fight against diseases of cattle and hogs. Congress stands ready at all times to send experts to study and devise means for controlling epidemics of hoof and mouth disease and to appropriate thousands of dollars for this purpose as was done by the last Congress, but in cases of epidemic poliomyelitis, their attitude is best expressed by the slang phrase, "nothing doing." For the period of nearly a century after the government was organized, Congress passed no quarantine law, nor any other law to protect the inhabitants of the United States against invasions by contagious diseases. During that time, some of the most terrible epidemics of cholera, yellow fever and poliomyelitis have gone their unfettered way.

As a nation we hold human life too cheaply and deem it good economy to care in institutions for thousands of hopeless cripples whose helplessness might have been prevented through legislative foresight. Already state legislatures are beginning to awaken to the fact that human life is as worthy of conservation as that of a Poland China. Our own state legislature, during its session of 1913, provided that all children of this state of needy parents afflicted with any sickness or deformity might be sent by the county probate court to the University Hospital for treatment at state expense. The trend of the times is toward state care of the needy and afflicted, regarding it as better economy to cure people and make them self supporting citizens than to treat them for life as invalid paupers.

To the state and nation, we must look for efficiency in disease prevention. Cities and counties cannot control outside of their own borders. The state and nation constitute the larger units. They have the financial backing of the whole people. The stamping out of a disease is a long process, requiring time, money and authority over large areas. The state of Michigan must know by this time the treacherous nature of this disease, that it robs the state of human wealth, that its very magnitude requires the full state and national power to make its suppression a success.

DISCUSSION.

DR. CARL D. CAMP: I have certainly been very much interested in Dr. Washburne's paper. I have not had much experience in the diagnosis of poliomyelitis in its acute stages and I have seen no cases before the paralysis has appeared. I have seen a few cases that were thought to be possibly poliomyelitis but I decided that they were not. At any rate, the patient did not become paralyzed. It has always

seemed to me that, although the lumbar puncture findings might be valuable in the early stages, as a matter of fact one should not use the lumbar puncture for diagnostic purposes in these cases unless there be an epidemic in the neighborhood. I have always had the idea that if a careful neurologic examination be made in the preparalytic stage, it would probably show some changes, such as lost reflexes; and it was chiefly because patients I have seen did not have these slight changes, that I decided they did not have poliomyelitis.

Dr. Washburne, I understand, does not regard the use of electricity and massage as particularly beneficial in these cases. I have passed through several stages of belief in this connection. At first I was rather enthusiastic, then I became distinctly pessimistic, and then I decided to try the thing out again for my own satisfaction. It is impossible to determine whether a recent case is improved by electricity, because one knows that recent cases have a natural tendency to improve anyhow. But taking a case after eight months, such a patient, treated by electricity, can be made to show considerable additional improvement, provided that the patient has not had any operative interference in the meantime; and provided further, that the treatment is carried out in a correct way. I found that if I allowed the treatment to be given by an assistant or interne, or if I simply told somebody to give the patient electric treatment, there was no result; but if I carried it out myself and kept at it faithfully I did get results. I am, therefore, of the opinion that probably the reason why electricity is so largely condemned in these cases is not entirely the fault of the electricity but rather the fault of those who use it.

DR. JOHN A. WESSINGER: I have been very greatly interested in Dr. Washburne's paper, especially from the standpoint of public health. I might say considerable along this line, but I will refrain because I shall have a great deal to say on this subject two weeks from tonight at the County Medical Society meeting. On that occasion we hope to bring out some things that will be worth while. I might say that I have seen fourteen of these cases in this city during the past six months. Three of the patients died, a death rate of 20 per cent. That is a pretty high mortality. Eight of the surviving patients are permanently paralyzed. I saw one man die at the age of 29, another patient, a child, at the age of 2 years. I have taken considerable pains to study the subject from an authoritative standpoint and I am inclined to think that the disease is contagious about in the same degree as typhoid fever is. It travels in waves. It does not involve the congested centers of population and goes considerably in couplets.

Of course, we all feel interested in the subject from the standpoint of orthopedics, but after all that is treating end results. If we can accomplish something in the way of prophylaxis, in my opinion, that is worth while, although orthopedic treatment has its place. I was interested in an article by Halstead of Johns Hopkins, who has recently done successful muscle transplantation. But after all, prophylaxis is the most interesting part of the subject. I have great confidence in the work of Flexner and others and believe they are on the right road. I might say that those patients who have had the

disease carry antibodies in their blood which make them immune, and with which immunity can be conferred to others.

DR. REUBEN PETERSON: Poliomyelitis has always been interesting to me. I saw sporadic cases of this disease when I was in the neurologic department of the Massachusetts General Hospital in 1887. But they were sporadic cases, since there were no epidemics at that time. As Dr. Washburne has said, the first reported epidemic was in 1894, but the disease certainly has increased remarkably since that time. I remember when I was in general practice in Grand Rapids from 1890 to 1898 I saw two or three cases of this disease. It was unrecognized usually by physicians because it had only rarely been seen in Michigan. Now, as we have learned from Dr. Wessinger, there have been fourteen cases in this small city in six months and we have had some quite extensive epidemics in Michigan.

I think possible Dr. Washburne was a little too severe on the national government for failure to spend money to stamp out these epidemics. Now in reality Congress, as I understand it, is pretty helpless in such matters. It has a certain power when it comes to the marine service and interstate commerce relations, but these patients do not come under either of these departments of the government. Because cattle do, Congress can step in and has the authority to stamp out diseases in cattle. It is not because the government is unwilling to spend the money, but because it has not the jurisdiction and the different states are very prone to resent anything upon the part of Congress as regards their boards of health or efforts to stamp out epidemics unless special national aid is asked. So I think possibly Dr. Washburne is unfair in his criticism. Flexner's work leads to the hope that state legislatures may awake to the good work that can be done along prophylactic lines.

DR. WASHBURN: I don't want to go on record as being opposed to electric treatment. The reason why such treatment is a failure is because it is not administered by competent men. It is usually left to the nurse or interne. I know one case Dr. Camp himself treated some years ago where he had good results. Another reason is that the treatment of poliomyelitis by electricity and massage leads to dependence upon that alone and almost never gives good results. It stands to reason that if a muscle is too weak to overcome an opposing member, if treated for an hour a day by electricity and manipulation and allowed to go the rest of the time in an abnormal position, i. e. stretched, you will get very poor results. My way of treating those muscles is a combination of orthopedic and neurologic treatment. If we keep these muscles in their proper condition during the part of the day when they are not being treated by electricity and massage, we then get the maximum results.

Dr. Camp speaks also of several cases where he thought he had a case of infantile paralysis and later no paralysis developed. We know that 25 per cent. and more of these patients with infantile paralysis recover perfectly and don't develop paralysis. No one need feel that he made a mistake in diagnosis because later on there was no paralysis. Any case which runs a septic course and is followed

by a loss of the use of the legs should be classed as a case of anterior poliomyelitis.

I was interested to hear Dr. Wessinger say that there were fourteen cases of this disease in this town. There are probably at the present time one thousand cases of anterior poliomyelitis in this state each year.

I should like to enter an objection to the common name of this disease. Infantile paralysis is a poor name. Eighty per cent. of the cases occur after six years of age, quite a proportion occur in adult life, and a large number die and are diagnosed as meningitis. It is a meningitis but it should be called a polio-meningitis.

FULMINATING OTITIS MEDIA, MASTOIDITIS, EXTENSIVE SIGMOID SINUS THROMBOSIS, LIGATION OF INTERNAL JUGULAR VEIN, RECOVERY.

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The case under consideration is that of a young male patient, 19 years of age, who presented himself at the clinic November 12, 1914, complaining of pain and a sensation of fullness in the right ear. When first seen at noon, he said that the pain had begun earlier in the morning and was becoming more severe in character. There was no history of any previous attack. The patient said he had had a sore throat for four previous days.

Examination revealed an intensely red and somewhat edematous mucous membrane over the tonsils and pharynx; a small mass of adenoids covered with glairy mucus, the mucous membrane of the epipharynx presenting the same picture as that over the pharynx. In the nose there was a high deviation of the septum to the right but no obstruction. The left nares showed a sharp shelving spur with contact. Left ear, membrane slightly retracted. Right ear, some tenderness on insertion of the speculum. The membrane showed redness along the handle of the malleus, marked redness of Shrapnell's membrane and a general increase in bloodvessels around the periphery. There was no mastoid tenderness, no nystagmus, no apparent facial paralysis. Hearing test showed a slight middle ear deafness.

Diagnosis.—Acute otitis media. The patient entered the Hospital and the usual treatment was instituted.

By four o'clock the symptoms had increased and the tympanic membrane could be seen to be bulging markedly. Free incision of the membrane allowed a bloody purulent discharge to

escape. This relieved the pain. There was no mastoid tenderness.

Nov. 11, 1914.—Ear discharging profusely. Good drainage but patient complains of tenderness on pressure over the mastoid antrum and tip. Leucocyte count 18,000. That evening codein by mouth was administered. Temperature 102.6°.

Nov. 15, 1914.—Mastoid tenderness increased and more extensive, i. e. over the emissary vein. The patient looks sick, face flushed and complains of headache. The ear is discharging freely and there is good drainage with slight drooping of the superior canal wall. Temperature 101.2°. Leucocytes 18,250.

Nov. 16, 1914.—Symptoms increased. Ear presents the same picture except that the discharge seems thicker. Culture of discharge shows streptococcus and staphylococcus; temperature 103.2°. Patient complains of feeling chilly and has a somewhat septic appearance. Albuminuria, few granular casts.

temperature and change in character to a more sustained type. Leucocytes 20,000. Wound dressed, pulsation in the region of the bulb.

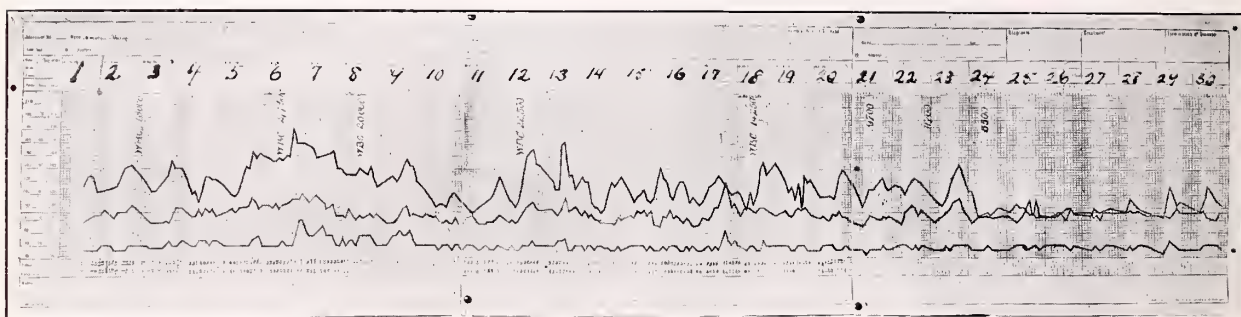
Nov. 20, 1914.—Temperature still rather constant, but patient complains of chilly sensations. Patient looks better. There is only a trace of albumin.

Nov. 21, 1914.—Considerable drop in temperature, 101°. Blood culture taken; negative. Has perspired rather freely. Patient not looking as well as he should. Urine negative.

Nov. 22, 1914.—Neck wound stitches removed, some pus. Edges approximated, mastoid clean, no bleeding from the torcular end, pulsation in the bulb end. Patient feeling better. Temperature down until 11:00 o'clock p. m., when it rose to 102°.

Nov. 23, 1914.—About noon, patient complained of feeling chilly, and temperature rose to 104°. Leucocytes 22,000.

Nov. 24, 1914.—Temperature rose to 105° at noon, chilly sensations complained of. Blood



Nov. 17, 1914.—Temperature remained at about 102° until about six o'clock when the patient had a definite chill and a rise of temperature to 105.2°. Leucocytes 27,750. Patient appears very sick, complains bitterly of pain on pressure over mastoid and stiffness of the neck. Prepared for operation.

Nov. 18, 1914.—Complete mastoid operation, ablation of sigmoid sinus, ligation of the jugular vein. The bone bled freely throughout. Cells were pus containing throughout. Granulation tissue discovered over the sinus at the knee. The sinus was opened and found filled with tunnelled clot which extended backward for a considerable distance toward the torcular. This was removed and free hemorrhage obtained. The sinus was uncovered extensively toward the bulb, but no hemorrhage obtained. Jugular vein ligated well below the facial and proximal end sutured to the skin. Good reaction from anesthetic.

Nov. 19, 1914.—Slow saline per rectum administered. There was a decided drop in the

culture negative. Patient complained of headache. Temperature dropped toward night. There was some gastro-intestinal disturbance. Wound showed nothing to account for symptoms.

Nov. 25, 1914.—Temperature at noon 99.6° and rose to 102.4° at midnight. Patient allowed to sit up in bed a short time. Wound in good condition, except in the regions of the bulb, where there is a marked pulsation. There is some pus in the lower neck wound.

Nov. 26, 1914.—Patient had a comfortable day. Temperature remained around 100° until midnight when it rose to 103°. Leucocytes 21,750.

Nov. 27, 1914.—Condition about the same.

Nov. 28, 1914.—Leucocytes 23,000. Wound in the region of the bulb about the same. Unable to irrigate through the vein into the bulb, and probe could not be passed. Pulsation marked. Operation: because of increase in leucocytes and character of the temperature, neck wound opened and extended toward the

base. Upper end of the jugular found, large amount of clot removed, and an attempt made to irrigate through and through freely, but failed. Bulb found impossible of entrance by method of Voss. Good reaction.

Nov. 29, 1914.—Temperature rose to 103° at 2 p. m. Patient does not complain.

Nov. 30, 1914.—Leucocytes 14,800. Patient has slept better.

Dec. 1, 1914.—Leucocytes 10,250. Temperature remained low with a slight rise in the afternoon. Wound dressed. Ear moist.

Dec. 5, 1914.—Patient improved. Leucocytes remain down. There is a slight rise in temperature in the afternoon. Appetite good. Forced diet given. Wound in good condition. The lips of the neck gape widely and are covered with excessive granulations. Ear is dry and no pulsation in the region of the bulb, which is filling in with granulation tissue.

From this point, convalescence was uneventful.

There are many points of interest in this case:

1. The fulminating character of the infection; mastoiditis established within forty-eight hours after the pain in the ear began: Extensive involvement of the sinus and vein within ninety-six hours. McKernon reports a case very similar following a turbinate operation. In his case, the mastoid was operated in forty-eight hours and on the eighteenth day an extensive sinus disease was operated. The vein was ligated at a level of the clavicle. Recovery. Richards reports a case in which there was facial paralysis and sinus involvement in five days. Operated and recovered. McKernon reports another case in which there was a mastoid operation within forty-eight hours and an extensive sinus and vein operation four days later. Recovery. Uren reports a case with rapid onset and extensive involvement with recovery.

2. The case illustrates the importance of the leucocyte count and graphic chart as guides to the condition of the patient.

3. The necessity for early surgical interference, when signs of sinus extension become manifest or are suspected.

4. Acute nephritis established five days after the beginning of symptoms and the cessation of these symptoms in six days.

5. The practical use for collodion and gauze dressing in reducing the size of a scar in treating an open wound.

6. Favorable prognosis usually after early interference. In the last decade the mortality

has decreased from 45 to 5 per cent. according to reports of the best observers.

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DISCUSSION.

DR. HOWARD H. CUMMINGS: The case reported by Dr. Lillie, was sent to the Hospital from the University Health Service. About the same time, another student came to the offices complaining of sore throat. The examination showed a slight injection of the vessels of the pharynx. Two days later, he returned, complaining of earache, and was referred to Dr. Canfield's clinic. In a surprisingly short time, he developed a mastoid infection and was operated upon. Whenever we find the lymphoid plaques of the pharyngeal wall inflamed and showing vesicles or pustules we make a diagnosis of streptococcus sore throat. Both of these patients showed this condition at the beginning of the disease. These are the cases which are followed by serious sequelae, mastoiditis, sinusitis, peritonitis, nephritis, etc.

Dr. Forsythe and I examined about seventy-five cases bacteriologically. When we made a smear directly from the pharynx and cultured it, we obtained both streptococcus and staphylococcus, but when the contents of the vesicles or pustules was cultured, pure streptococcus was obtained in nearly every case.

DR. R. BISHOP CANFIELD: This is one of the types of streptococcus sore throat. If the technic is perfect the culture from this type of infection shows the streptococcus practically in all cases.

This case was interesting to us from his entrance to the Hospital, when we suspected that it was a very serious infection. Following entrance he made a very marked improvement. We then suspected that we might be wrong in our prognosis. During the time previous to operation he had very little mastoid tenderness. It was only the day before he was operated that he became very sick. In other words, we were deceived by his improvements after his ear was opened. It was a difficult case to operate upon because the thrombus was tunneled and was difficult to get out of the sinus without severe hemorrhage. It was impossible to sew the proximal end of the vein to the skin and leave it open because of hemorrhage. We found it impossible by any technic which we possessed to enter his bulb thoroughly. When we tried to enter it from below we found the posterior cerebellar fossa so deep that we could not reach the bulb. We were unable to reach it from behind on account of the same peculiarity and when we tried the method of Voss we found the facial nerve staring us in the face. We were certain as soon as we noted his convalescence that he would come for a second operation even if he recovered. His true condition, however, was somewhat hidden by the fact that every time he showed elevation of temperature and leucocytosis he had

something to account for it other than his ear, some intestinal disturbance or pharyngitis. We were certain that he would have to be operated upon again when we found pus in his jugular bulb. I think we would have had a perfect right to operate upon this man immediately upon entrance because we found a mixed staphylococcus and streptococcus infection in his ear. Most of such fulminating cases come to a mastoid operation. The reasons why he went on to thrombosis was that he had rather large emissary veins running through the temporal bone. In such cases thrombosis of these veins extends into the sinus. I am quite sure that he had a thrombosis of the sigmoid sinus before we suspected it; probably he had an obstruction of his sinus as early as the second or third day of his stay in the Hospital. That was evidenced by his high leucocyte count, and by the operative findings which showed us a thrombus probably eight or ten inches long at the time of operation.

I think the treatment which Dr. Lillie gave the neck wound is very instructive. We have been accustomed to see rather objectionable scars after such operations. I recommend to those who do neck surgery the use of collodion dressings in post operative treatment. In such deep neck operations as this a gaping wound is necessary during the time when the infection is clearing up. I think to be able to secure a scar of that sort is certainly very gratifying.

DR. HARRY SCHMIDT: Was the relation between the polymorpholeucocytes considered in the case of thrombosis? Were they 80 or 90 per cent. or not so high as that?

DR. CANFIELD: I don't think so. They are always higher than normal, and frequently run 80 per cent. If they get to be 90 per cent. you are quite sure that the vein is involved. Any leucocytosis in mastoiditis is very good evidence of an involvement of the blood stream. We don't expect a leucocytosis in simple mastoiditis except in those mastoids which are diploetic. In a thrombus, in the pneumatic mastoids we don't get that. A large increase in the white count is evidence of vein involvement.

DR. LILLIE: It was difficult in this case to choose an anesthetic. The patient had an acute nephritis with marked albumin and casts, and neither chloroform nor ether was indicated. We preferred the nitrous oxide anesthetic, but were unable to obtain any in the Hospital. So we chose chloroform, which we used for a long time until the patient was not doing well, when we changed to ether. Apparently it had no effect upon the kidneys.

With regard to Dr. Schmidt's question, I have done many differential counts in such cases. The percentage of polymorpholeucocytes was usually about 80. If you count degenerates and other cells in this category, they usually rise to 85 per cent., but I don't know as they show anything in regard to the sinus involvement.

A CASE OF CONGENITAL PTOSIS AND ITS CORRECTION BY THE HESS OPERATION.

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(From the Ophthalmologic Clinic, University Hospital, Ann Arbor, Michigan.)

The case I wish to present is that of Miss F., age 16, who entered the Ophthalmic Ward January 6, 1915, complaining of drooping of the upper lid of the left eye, a condition which had been present since birth.

The family and personal histories were negative. The general physical examination was negative with the exception of a compensated heart lesion.

The examination of the eyes showed vision in the right eye to be 6/6 and in the left eye 6/15. The pupillary reflexes and tension were normal. There were no fundus changes. The external examination of the right eye was negative. On inspection of the left eye the upper lid was found to be in a position of marked ptosis, the lid border extending below the center of the cornea causing a marked narrowing of the palpebral aperture and materially interfering with direct vision. The skin of the lid was normal in color with no hypertrophy. The oculo-orbital fold was obliterated. On attempting to raise the eyes, only slight movement of the upper lid of the left eye was present and that was due to traction on the skin by action of the frontalis muscle. Forceful closure of the lids revealed normal action of the orbicularis. The extra-ocular movements were good.

Diagnosis.—Congenital ptosis.

Treatment of congenital ptosis is surgical and a variety of operations have been devised for its relief. The one chosen in this case by the operator, Dr. Walter R. Parker, was the Hess operation which may be briefly described as follows: After a previous cleansing of the brow and lid, followed by an application of benzine and iodine, an incision was made through the skin immediately below the brow, parallel and of equal length to the palpebral fissure. The change in the location of the incision was the only departure from the usual technic. By this change, shaving of the brow was avoided. After the incision, the skin was undermined down to a point near the lid border, care being taken not to go deeply, as a troublesome hemorrhage might have resulted. The beginning of the dissection is usually rendered somewhat difficult by the numerous muscle fibers in the skin of the brow, but by making the incision at a point as above described this difficulty is much less.

sened. The dissected lid formed a pocket, into the lower edge of which were inserted three double armed sutures, four or five millimeters from the lid border. The first suture entered the skin in the center of the lid and the two others to the sides, each being about seven millimeters apart. The skin was fixed with forceps, other on the skin at the point of intended transfixion in order to hold the lid firmly while the sutures were inserted. The needles with sutures were then passed up beneath the skin of the lid and reinserted under the brow, catching up the frontalis muscle. They emerged about two centimeters from the point of insertion. The needles of the inner thread were not inserted directly perpendicularly, but were inclined a little toward the median line. The three sutures were then tied over rolls of rubber tissue and drawn sufficiently tight to hold the lid in a position of over correction. Care must be exercised in inserting the sutures in order that the fold formed by them should correspond to that in the other eye. The threads were not drawn tightly or they would have cut through quickly and allowed the lid to fall. The skin wound was closed with several silk sutures. A nearly air tight dressing, known as Buller's shield, was placed over the eye, beneath which the moisture from the skin rapidly collected, preventing dessication of the cornea. The shield consisted of a watch glass placed over an opening in a square of adhesive plaster. Through the watch glass the eye was inspected from day to day and as occasion required the shield was removed and the eye cleansed. The skin sutures were removed in five days but the sutures retaining the lid in its elevated position were allowed to remain for twenty days. After this time they became loose and lost their hold on the lid. In case the sutures become loose early they may be tightened by twisting the rolls of rubber tissue over which they are tied.

The object of the supporting sutures is to form strands of scar tissue along their course, attaching the lid to the frontalis muscle, by which the lid may be elevated when the muscle is contracted. In addition, the skin of the lid reunites with the posterior flap at a higher point, which aids in maintaining the lid in a position of elevation. The incision heals by first intention leaving but a faint linear scar which is scarcely noticeable since it is located immediately beneath the brow.

Figure I shows the condition of the lid before operation, and Figure II the result after operation. Figure III shows a photograph of the pa-

tient taken a day after the stitches were removed. The fold is restored but the swelling of the lid, together with the undeveloped power of the frontalis to raise the lid, gives the appearance of a marked undercorrection. The appearance will be greatly improved in the course of one month's time.

True ptosis is due to an affection of the levator muscle. Among other types are the



Fig. I. Photograph of case of ptosis before operation.

following: Those due to an inflammatory condition of the eye in which there is swelling and an increase in weight of the lid with consequent drooping. This form is present in numerous acute eye affections. Those due to chronic hypertrophies which cause a permanent so-called ptosis from excessive weight. Also there are those conditions in which the skin of the lid becomes lax and hangs



Fig. II. Photograph of case of ptosis after operation.

in a loose fold before the palpebral aperture. Spasm of the orbicularis, by some classed as pseudoparalytic ptosis, is another form. An inability to raise the lids when awakening from sleep is often found in nervous women past middle life, and this condition becoming chronic or constant merges into so-called hysterical ptosis. Finally may be mentioned a form of ptosis caused by the paralysis of Muller's muscle.

Ptosis is classified as congenital and acquired.

The congenital type, as in the case presented, is due to a partial development or absence of the levator muscle. It is sometimes associated with epicanthus and absence of the superior rectus muscle. The acquired type is due either to injury of the muscle or nerve supplying it, or to lesions affecting the nerve or its nucleus. Ptosis is often associated with paralysis of the muscles supplied by the third nerve, consequently any intracranial condition which is responsible for third nerve paralysis may be considered as an etiologic factor in the production of ptosis. Among these conditions may be mentioned syphilis, brain tumor, etc. Isolated cases of ptosis in which this is the only symptom of third nerve involvement are probably central in origin. Congenital ptosis is usually bilateral, the case presented being an exception to this rule. The acquired type is usually unilateral.

Treatment of congenital and all permanent forms of ptosis is surgical. The indication for operation is an active frontalis muscle. The contraindications are an inactive frontalis muscle, absence of the superior rectus muscle, and third nerve paralysis with diplopia, where a correction of the ptosis would be more harmful



Fig. III. Photograph of case of ptosis taken one day after stitches were removed.

than beneficial, for as long as vision is obstructed, as would be the case in ptosis, no diplopia would be present. A correction of the ptosis would restore vision and diplopia would be the result.

Treatment of ptosis of the acquired type should be directed at least for a time to the underlying cause.

DISCUSSION.

DR. R. BISHOP CANFIELD: What do you consider the relationship between specific disease and congenital ptosis?

DR. ABELL: Ptosis may be seen in cases of syphilis but practically never in association with tabes. Congenital cases with entire absence of the power of the levator are not syphilitic. In this case the Wassermann was negative.

1. A CASE OF ABDOMINAL CESAREAN SECTION FOLLOWING THE INTERPOSITION OPERATION FOR UTERINE PROLAPSE, COMPLICATED BY PLACENTA

PREVIA.

2. A CASE OF ABDOMINAL CESAREAN SECTION FOR CONTRACTED PELVIS AFTER EARLY RUPTURE OF THE MEMBRANES.

FREDERIC M. LOOMIS, M.D.

(From the Obstetric and Gynecologic Clinic, University Hospital, Ann Arbor, Michigan).

1. The patient, age 33, married, was operated in June, 1911 for prolapsus and cystocele, a modified Watkins or interposition operation being done. Briefly, in this procedure the anterior vaginal wall is split longitudinally, the bladder separated from the fundus and pushed up, the peritoneal cavity opened and the fundus pulled forward and anchored to the vaginal wall, i. e. interposed between the bladder and the outside world. The bladder rests high above the fundus, instead of anterior to it, and the uterus itself remains immovably in place, a living and permanent tampon, the cervix pointing sharply backward into the hollow of the sacrum. This operation distinctly contraindicates pregnancy and it has always been the rule of the clinic to sterilize by ligation and partial excision of the tubes all patients in the child-bearing age who undergo the operation.

For some reason, this patient was not sterilized. Three years later she became pregnant and promptly developed marked distress on urination and pain in walking, as might well be expected since the expanding fundus was immovably fastened to the vaginal wall. As was afterward shown the further development of the uterus took place almost entirely on its posterior wall, and the patient became comparatively comfortable.

When about seven and one-half months along in pregnancy, there occurred a sudden painless and apparently causeless hemorrhage. The attending physician, Dr. Hardy of Tecumseh, controlled the bleeding by a tight vaginal pack but was unable to make a definite diagnosis because he could not reach the cervix with the examining finger. Hemorrhage recurred five times in a week or so and the patient was as

often packed, but only after great loss of blood.

The patient entered the University Hospital December 6, as an emergency case, with a roller gauze pack in place. That the previous examinations and packing had been carefully done was evidenced by the absence of temperature and other signs of sepsis. Satisfactory examination was impossible because of tenderness and of the impossible distance of the cervix from the outlet, the external os lying far back, close to the promontory of the sacrum. However, the probable diagnosis of placenta previa was made. At this time the patient was weak and badly exsanguinated, showing slightly over two million red cells, hemoglobin 40 per cent., white cells 11,000, blood pressure 115. The urine showed a trace of albumin and several hyaline and granular casts. The fetal heart was heard with difficulty, the patient having a heavy panniculus. The estimated duration of pregnancy was slightly less than eight months.

Preparations were made for instant operative measures if necessary before the return to Ann Arbor of Dr. Peterson, who was expected two days later. The patient was put to bed, kept very quiet and ceaselessly watched, the packing being left out. She rested comfortably, with little or no elevation of temperature till 1 a. m. of December 19, when there was an alarming hemorrhage which was quickly controlled by a firm vaginal pack put into place through a large proctoscope, a surprisingly efficient means of placing packing, under sterile conditions, in the far depths of a multiparous vagina. Further delay was impossible. Version and extraction were out of the question because the cervix could not be reached. Vaginal Cesarean was excluded for the same reason and because the low implantation of the placenta would have made violent hemorrhage certain, and the patient was not then in condition to lose even a small amount of blood. Abdominal Cesarean was the only possible course of treatment by which this patient had even a desperate chance, and in spite of the history of repeated examinations and packings, this was done on the same day (December 19) by Dr. Peterson.

Operation.—A high median incision was made and the pregnant uterus delivered with some difficulty through the opening. The abdominal cavity was thoroughly packed off, the ovarian and uterine arteries clamped off to prevent bleeding, and the uterus opened. A small but vigorous female child was delivered, crying at once. A panhysterectomy was done in the usual manner except that it was neces-

sary to dissect off that part of the anterior uterine wall to which the bladder was attached, so dense were the adhesions. Gauze drainage was left through the opened vaginal vault. The abdominal wall was closed in the usual manner. Light ether anesthesia was used till the child was delivered, then nitrous oxide for a time, the operation being completed under ether. Twenty ounces of normal saline were given under the left breast before the patient left the operating table.

The Uterus.—Examination of the amputated uterus showed that its development had been almost entirely on the posterior wall, this being strikingly proved by the fact that the incision which was, of course, made through the uterine surface in relation to the anterior abdominal wall was entirely posterior as soon as the organ had contracted to a moderate degree after the removal of the child. The placenta was found implanted over the margin of the cervix.

The Child.—The child weighed four and one-half pounds at birth and has steadily improved on artificial feeding, gaining a half pound the past week.

After History.—Reaction from the anesthetic was excellent and the following morning the temperature was 98.6°, pulse 104, respiration 20. There was a sudden and alarming rise to 103.3° with a pulse of 176 in the afternoon, following a slight chill, but under stimulation and with digipuratum by hypo this fell again to normal in four hours. The red count was then 1,800,000, whites 12,250. From this point the patient became stuporous and though apparently gaining in strength, the temperature remained about 100-101°. However, early in the morning of the twelfth day the patient had a severe chill and in two and a half hours the temperature shot up to 106.4° by rectum. The patient became stuporous and though apparently at the point of death rallied and the temperature again fell to 100°. Thereafter the patient suffered a succession of similar daily flares, at no time, however, showing the usual signs of peritonitis but instead a characteristic picture of septic thrombosis with recurring dissemination. There were no signs of pulmonary embolism nor of femoral thrombosis, but the patient complained of pain in the left thigh and areas of infarction appeared on the left leg and over the sacrum. Death occurred on the sixteenth day, no autopsy being obtained.

CONCLUSIONS.

This history emphasizes the desirability of careful sterilization of patients receiving the

interposition operation but it appears altogether probable that the placenta previa, as the cause of repeated hemorrhage, repeated packing and very severe anemia was the direct cause of the fatal outcome. Except for the longer operation of hysterectomy following Cesarean section—and hysterectomy under difficult conditions—the operation itself was but little more hazardous than usual. I have been unable to find in English a single case of abdominal Cesarean section following the interposition operation, though there are twenty-three cases of abdominal Cesarean after vaginal fixation in the German literature of the past fifteen years, these, however, following an operation not necessarily precisely like the one under consideration. There are numerous cases of successful normal delivery following abdominal fixation. Most careful after consideration shows no other possible treatment of this patient's condition, desperate as it was.

2. A CASE OF ABDOMINAL CESAREAN SECTION FOR CONTRACTED PELVIS, AFTER EARLY RUPTURE OF MEMBRANES.

I beg leave to present briefly another case of abdominal Cesarean section occurring in the same week, both as a matter of record and as a matter of caution.

This patient entered the University Hospital December 4, 1914, showing a normal pregnancy near term. History and examination were practically negative except that the abdomen was unusually large and the external conjugate was only 17 centimeters, the other measurements being nearly normal. In other words the patient presented only a moderately severe degree of simple flat pelvis, with the fetus lying high above the inlet.

Premature rupture of the membranes occurred at noon of December 12, pains not starting till midnight of the same day. They became severe and frequent later in the morning and continued all day, the patient and baby remaining in good condition. There was absolutely no progress in the descent and the cervix was dilated only about to the size of a dollar. At 9:30 morphine sulphate, grains one-fourth were given and the patient rested for several hours. At 3 a. m. December 14, there being still no progress, the head hanging high above the pelvic inlet abdominal Cesarean section was determined upon. The patient was removed to the surgical amphitheatre and under light ether anesthesia the uterus was opened by the abdominal route about 4:30 a. m., forty hours after

the rupture of the membranes. The child was delivered twenty seconds after the beginning of the incision, crying at once. The placenta was anterior but there was no serious hemorrhage.

The patient's pulse rose to 160 almost as soon as she returned to bed and never fell, the temperature also rising steadily. There was constant abdominal pain, with other evidence of acute peritonitis, and the patient died on the second day. The child was a large healthy male with an unusually un moulded head, and is at present in excellent condition.

The interest in this case lies in the fact that there was not a single vaginal examination made from the beginning to the end of the labor, all investigations being per rectum; in the fatal outcome of a Cesarean done quickly and easily on a patient apparently in fairly good condition except for a single factor, and in the necessity of a Cesarean at all in a pelvis of only a moderate contraction.

The single and apparently very important factor above referred to is the long interval between the rupture of the membranes and the opening of the abdomen. It is a well known fact that the danger of abdominal section increases rapidly with every hour of delay after rupture. It is an equally well known fact that to do an abdominal Cesarean on every patient with an external conjugate of 17 centimeters would be absurd, since a large majority will deliver themselves spontaneously, especially with the help of the Walcher position which increases the true conjugate diameter.

That the patient was already infected before operation seems reasonably sure from the fact that she was already in bad condition when she returned to bed after operation, and that she died from peritonitis is shown by the fact that while no autopsy was obtained, the incision was opened post mortem and streptococci were demonstrated in the purulent exudate which bathed the abdominal cavity.

As presenting a problem of great frequency and as the first death from abdominal Cesarean section by Dr. Peterson in this clinic though, to be sure, to be so soon followed by another, the case is thought worthy of record.

DISCUSSION.

DR. REUBEN PETERSON: These two cases of abdominal Cesarean section have been very interesting to us. I will first discuss the last case reported. Dr. Loomis kept me in touch with the progress of this patient and when she had been given the test of labor with the measurements recorded and there was no entrance of the head into the pelvis, the question of high forceps or Cesarean section presented itself.

I remarked to Dr. Loomis at that time that I was doubtful about the advisability of Cesarean section. On the other hand, it seemed rather a hazardous procedure for both mother and child to use high forceps on a floating head with a child probably of large size. Therefore, we chose the abdominal Cesarean section having in mind the possibility of trouble. And yet everything seemed so free from sepsis that I think that we were justified in not doing a Porro operation as far as we could tell at the time of operation. As it turned out, I think we should have removed the uterus, since in spite of appearances the patient was undoubtedly septic prior to the operation. Dr. Kamperman went over our obstetric records some years ago and found that sepsis was much more common where the patients had so-called dry labors. I had noticed this for many years in my own practice. For this reason I was doubtful about this case and yet decided to run the risks of an abdominal operation because no vaginal examination had been made.

The second case is exceedingly interesting on account of its rarity. Why this patient was not sterilized at the time of the operation, I don't care to discuss. It has been the rule of the clinic ever since the Watkins operation has been performed, that the patient should be sterilized, but in this case it was omitted. Why it was omitted was discussed afterwards, but then it was too late. The result in this case was more or less to be expected. In placenta previa itself without abdominal Cesarean section sepsis is very liable to occur. Placenta previa in a uterus where the development has taken place in the posterior wall is a very serious complication. It was impossible to reach the os in this case, so as Dr. Loomis stated, it was impossible to do anything from below. If I could have done a craniotomy here, I certainly should have performed it, because with placenta previa, and marked loss of blood which necessitated gauze packing a number of times, presumably the patient was septic. But since the os could not be reached from below there was nothing else to do but an abdominal section of the Porro-Cesarean type.

The uterus was delivered before it was incised, and also great precautions were taken to prevent the patient from losing any more blood. It must be remembered the hemoglobin was as low as 40 per cent., so the arteries were clamped before the uterus was incised. It looked as though she was going to recover and if it had not been for the anemia which favored thrombosis, she might have gotten well. There was nothing else to do in this case except the abdominal Cesarean unless we had left the patient to bleed to death, which, of course, was out of the question.

I have been interested in looking up the literature of this last operation. It is rare even without placenta previa. In twenty-two cases where abdominal Cesarean section was performed after vagino-fixation, there were six deaths, a mortality of 20 per cent. There were four with eight recoveries and two deaths. One died from

peritonitis and another from air embolism. There were six Porro operations, amputation of the cervix, with three deaths. These Porro operations were performed because of the fear of sepsis. Two died from hemorrhage and one from sepsis. There were three extirpations of the uterus with three recoveries. There was one extraperitoneal Cesarean section with one recovery. We were unable to perform such an operation in this case because of the anterior position of the uterus.

It is interesting to note that in one of these cases the patient had been operated upon twice, the first time from below without sterilization. In the second pregnancy Cesarean section was performed and she recovered. In one case there were twins, both mother and twins making good recoveries. These operations were performed at full term eighteen times out of twenty cases and twice at the eighth month. Our case is interesting because of the added complications of placenta previa. That undoubtedly led to her death for the reasons I have stated.

I wanted to have these two deaths following abdominal Cesarean section reported so as to impress upon others what has been impressed upon us, that while abdominal Cesarean section is an exceedingly simple operation, it is not simple as regards results when it is performed where there is a chance of previous sepsis. Routh has shown that after rupture of the membranes the mortality is 11 per cent. Where the membranes are unruptured with no vaginal examinations, it is between 2 and 3 per cent. The second case is remarkable because with no examinations sepsis occurred because of the early rupture of the membranes and the passage upward of microorganisms. We fall into the habit of thinking that an abdominal Cesarean is a simple operation, but let me again impress upon you the fact that the results may be bad under conditions similar to those existing in the two cases reported.

DR. HOWARD H. CUMMINGS: The first case reported by Dr. Loomis, is unusually interesting. Several cases of pregnancy following the Watkins operation have been reported where the child was born spontaneously. It seems to me that the complication of placenta previa was the primary cause of the patient's death.

DR. LOOMIS: We recently had the unusual privilege in another case of observing the adhesions that are formed in the interposition operation. The intention is to form such adhesions that the bladder will be anchored high up and the fundus low down. In the case here referred to nothing could ever have come down. In reply to Dr. Cumming's question, while it is well known that the streptococcus is especially likely to make its way through the uterine wall into the parauterine tissues, we cannot say that such a thing happened because we cannot say that the uterus was septic before operation, and the fact that the case ran twelve days afterward makes such invasion unlikely. It seems to us more probable that the open vaginal vault made the way for the infection, the vagina being septic.

REPORT OF A CASE OF SYPHILIS WITH EARLY CENTRAL NERVOUS INVOLVEMENT.

UDO J. WILE, M.D.

(From the Clinic of Dermatology and Syphilology, University
Hospital, Ann Arbor, Michigan.)

I take the liberty of reporting a different case to you than the one which appears upon the program, a case similar to one presented before this Society about a year ago. This is a case of papulo-squamous syphilid, in which there is marked involvement of the central nervous system. The patient is quite deaf. The explanation of this form of deafness, also of the various palsies, which may occur following the initial injection of salvarsan was discussed last year, when we showed a case of seventh nerve palsy following an injection of salvarsan. The explanation lies in the theory of neuro-recurrence. It is assumed that following the injection of salvarsan there is an acute exacerbation of the preexisting meningitis. This results in edema and more or less mechanical pressure on the nerves as they emerge through the foramina. Such a case as is now before you can not possibly be explained upon such a basis because this patient has had no treatment. He has a relatively malignant form of syphilis as evidenced by loss of weight, by his general run down appearance and by the type of the eruption itself. It will be noticed that this is a follicular syphilid. We know that the follicular syphilids are likely to be malignant and precocious. The presence of deafness and of extreme headache make it most probable that there is central nervous involvement in this patient as early as the second or third month after infection. The primary sore is still present. We shall send the patient over to Dr. Camp to-morrow to determine whether he has any objective neurologic findings. Dr. Canfield examined the patient and found that he was so deaf that it was impossible to get an accurate test of his bone conduction. The case is presented to you as one of precocious malignant syphilis in association with deafness of central origin.

DISCUSSION.

DR. CARL D. CAMP: I examined this patient this afternoon. It is a very interesting case. The patient told me that he had been slightly deaf since childhood but apparently the severe deafness is a matter of only ten days or two weeks' duration. The patient seems to have no other symptoms aside from those mentioned and the objective neurologic examination is negative. He has pupils sluggish to light. On the basis of my findings I could only diagnose involvement of the eighth and optic nerves. I think that probably there has been no degenerative change so far in the central nervous system.

DR. R. BISHOP CANFIELD: I had the opportunity of seeing this man this morning and I was much interested to note the intensity of deafness so early in his disease. The deafness began about five weeks after his initial sore. The deafness at that time was no doubt of a character similar to that from which he is now suffering, that is, typically a central nervous deafness so marked for the tuning forks that an accurate test is impossible. This man's hearing test is not pathognomonic of lues because his deafness for both the high and low notes is so marked. The deafness which we consider pathognomonic is characterized by a decreased bone conduction in an ear otherwise normal. This man has probably a marked decrease in his bone conduction, but he is also deaf throughout the entire musical scale. If he didn't have syphilis he might still have such a deafness, but the fact that he has syphilis and that his deafness has followed and increased so rapidly after his lues was contracted, makes it very probable that it is specific in character. It is interesting to note that he has to-day little if any nystagmus, which would seem to argue against a very extensive basal meningitis, at least a meningitis along the vestibular tract. It is more probable that he has an internal ear lues. I think this is the earliest case of deafness due to specific disease that I have seen, unless it is the one other case which Dr. Wile referred to us, in which the deafness began about three weeks after the initial sore.

DR. WILE: I think it will be definitely shown that this patient has central nervous involvement. This is quite in accord with the findings that Dr. Stokes and myself have reported, that patients in the secondary stages at some time or other have demonstrable central nervous changes. Dr. Camp's interesting findings and those of Dr. Canfield bear out the other clinical symptoms in this case. It must be said, however, that even in the presence of completely negative clinical findings, there are not infrequently evidences of beginning involvement as shown in the spinal fluid.

Venarsen.—Venarsen, marketed by the Intravenous Products Co. for the treatment of syphilis, pellagra, tuberculosis, anemia, etc., is a secret preparation. One circular suggests that Venarsen is a sort of an improved salvarsan, but in reality it gives no clew whatever as to the real character of the preparation. Another circular suggests that Venarsen is a shot-gun combination containing arsenic, mercury and other anti-syphilitic drugs. It is not only the right

but the duty of physicians to know the essential composition of what they prescribe; a physician who uses a remedy the composition of which is kept secret, even in part, is not doing his duty to his profession nor to his patient. It is almost criminal for physicians to use a preparation of secret composition and to administer it by intravenous injection—a method which in itself is altogether likely to give rise to accidents (*Mo. State Med. Jour.*, Jan. 1915).

Case Report

A CASE OF CONGENITAL ATRESIA OF THE ESOPHAGUS.

JOHN B. JACKSON, M.D.
KALAMAZOO, MICH.

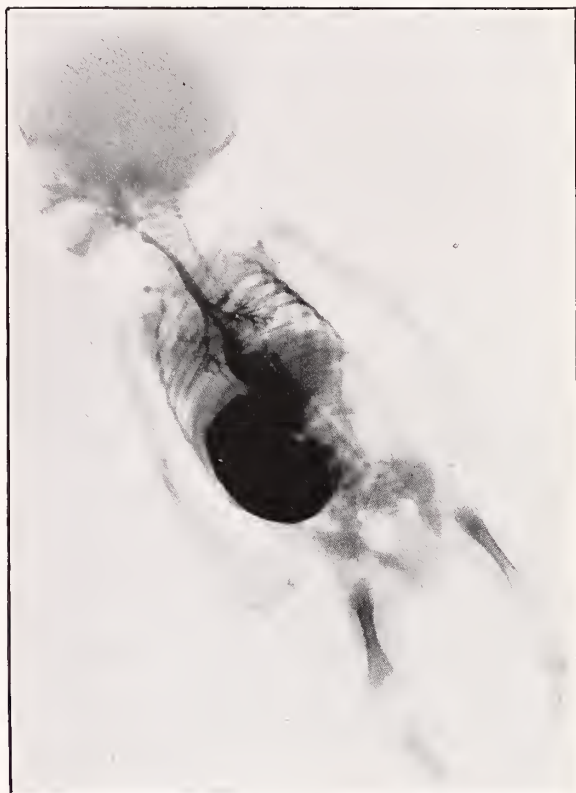
Baby B., born on Nov. 11, 1914. Weight 5½ pounds. The labor was normal but was supposed to be about three weeks premature. The baby was slightly cyanotic when born, but responded to external stimulation and became of good color after crying. In about ten minutes it became very cyanotic again and almost died. This tendency to attacks of cyanosis continued for three days. Between attacks the baby was

ful, an attempt was made to pass a tube into the baby's stomach. The tube could be felt to enter the esophagus, but after going down a little more than an inch met with an obstruction. To

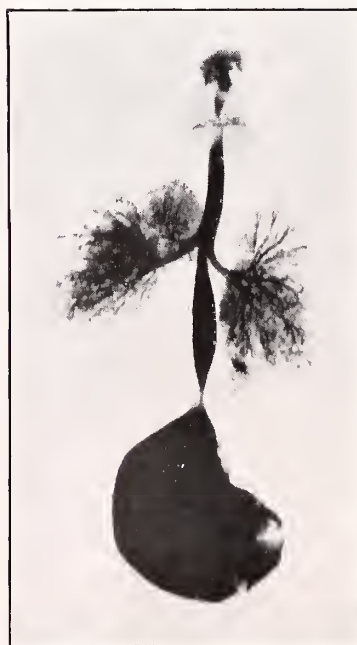


Picture No. 1. X-Ray taken before death. Catheter passed into upper end of esophagus and bismuth forced in to distend it. Note gas in gastro-intestinal tract.

of good color. It had frothy mucous and saliva coming from the mouth and nose quite constantly. It seemed to have difficulty in swallowing water. When the mother's breasts filled and the baby was allowed to nurse, the difficulty in swallowing became more noticeable. It would get a few drops of milk into the mouth and then being unable to swallow it would expel it through the nose and at the corners of the mouth. All efforts at feeding being unsuecess-



Picture No. 2. X-Ray taken after death. Bismuth forced into pyloric opening of stomach. Bismuth passes up through trachea and into the mouth.



Picture No. 3. X-Ray taken of trachea, esophagus, lungs and stomach. A ligature has been placed around the upper end of the trachea and bismuth has been forced into the stomach under considerable pressure. The bismuth has been forced out into the lungs and the X-Ray shows the bronchial tree.

determine whether this was a true atresia or merely a stenosis an X-Ray picture was taken.

X-Ray Examination.—This showed that the esophagus was a blind pouch with absolutely no opening below. The baby's abdomen was quite distended after the first day.

Diagnosis.—A diagnosis of congenital atresia was made and a hopeless prognosis given. On account of the tendency to cyanosis and the abdominal distention it seemed likely that the lower end of the esophagus communicated with the trachea.



Picture No. 4. Picture of specimen after dissection, a probe has been passed into the upper end of the esophagus distending it.

Autopsy.—The baby died of inanition at the end of eleven days. At autopsy the upper end of the esophagus was found to end in a blind pouch about one and one-half inch below the opening. The lower end communicated with the trachea at the bifurcation.

PROPAGANDA FOR REFORM

Neurosine, Dioviburnia, Germiletum and Palpebrine.—The Council on Pharmacy and Chemistry reports on Neurosine, Dioviburnia, Germiletum and Palpebrine, shot-gun proprietaries typical of the polypharmacy of past decades, put out by the Dios Chemical Co., St. Louis.

Neurosine is said to contain, in each fluidounce

"Bromid of potassium, C. P. 40 grains, Bromid of sodium, C. P. 40 grains, Bromid of ammonium, C. P. 40 grains, Bromid of zinc 1 grain, Extract Lupulin 32 grains, Cascara sagrada, fl. ex. 40 minims, Extract Henbane .075 grain, Extract Belladonna .075 grain, Extract Cannabis Indica .60 grain, Oil Bitter Almonds .060 grain, Aromatic Elixirs." No physician would think of prescribing all of the drugs in Neurosine for any one condition. The Dios Company urges the use of this nostrum for a host of conditions and without due consideration of its potent constituents. Not content with recommending the promiscuous use of this already too complex mixture, the Dios Co. advises physicians to combine it with other drugs.

Germiletum is a member of a large class of alkaline septs with excessively complex formulas. The formulas on different styles of Germiletum labels and circulars vary so much that one cannot tell what composition the exploiters of it intend to claim for their nostrum. Germiletum is recommended in many conditions and in a way to lead the physician to place false confidence in it.

According to the label every fluid ounce of Dioviburnia contains "3/4 dr. each of the fl. extracts, Viburnum Prunifolium, Viburnum Opulus, Dioscorea Villosa, Aletris Farinosa, Helonias Dioica, Mitchella (sic) Repens, Caulophyllum Thalictrifolios, Scutellaria Laterifolia." The label also declares that Dioviburnia contains 18 per cent. of alcohol. As the named fluid-extracts in the quantities given require a much larger content of alcohol in Dioviburnia, either the alcohol statement or the formula is incorrect. This complex preparation of drugs generally considered worthless is recommended by extravagant and unwarranted claims for a large number of widely differing female disorders. In a way the Dios Co. seems to recognize the inefficiency of Dioviburnia, for it frequently suggests that it be used in combination with drugs of known value.

Palpebrine is claimed to be a solution of stated amount of morphine sulphate, zinc sulphate, mercuric chloride, boric acid and salicylic acid. It is termed "A Reliable External Ocular Antiseptic." It is asserted that "With the assistance of Palpebrine the general practitioner can successfully treat all cases of external eye disease ordinarily encountered in his practice." Even more dangerous is the recommendation of Palpebrine for the prevention of ophthalmia in the newborn (*Jour. A.M.A.*, Jan. 9, 1915, p. 165).

Sedobrol "Roche."—Sedobrol (Hoffman LaRoche Chemical Works) is stated to contain "17 grains Sodium Bromid, 1.5 grain common salt, fat and seasoning" and to furnish "on solution in hot water, a very palatable Bouillon." The advertising "literature" advocates its use for stage fright and arteriosclerosis and recommends the use of a large dose of bromid in the guise of a cup of bouillon in many conditions. It is even recommended to use Sedobrol in place of salt, simply to flavor food. The Council on Pharmacy and Chemistry held that Sedobrol, Roche was unscientific, that unwarranted therapeutic claims were made for it and that there was evident intention to mislead both patient and physician into useless and pernicious medication (*Jour. A.M.A.*, Jan. 2, 1915, p. 71).

The Journal
OF THE
Michigan State Medical Society
ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

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W. J. KayLapeer.
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All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscriptions are to be addressed to Frederick C. Warnshuis, M. D., 91 Monroe Ave., Grand Rapids, Mich.
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MARCH

Editorials

**IMPORTANT:—THE HARRISON BILL
REQUIRES EVERY PHYSICIAN
TO REGISTER.**

The Harrison bill becomes an internal revenue law on March 1st. It is important, to avoid government penalties, that every physician in Michigan attend to complying with the following requirements:

1. Register with the collector of Internal Revenue for your District (Detroit or Grand Rapids), on or before March 1st.
2. Declare to the collector of Internal Revenue the amount of opium or of its derivatives that you had in your possession on March 1st.
3. Secure the government prescription blanks upon which write all your future prescriptions for opium or its derivatives.
4. Keep a duplicate of these prescriptions on file for two years.

The following are detailed features of the law:

REQUIREMENTS OF THE HARRISON LAW.¹

The Harrison bill, which has been before Congress for the last two years, became a law, Dec. 17, 1914. Official copies of the law and the regulations for its enforcement have been issued by the Commissioner of Internal Revenue. While the provisions of the bill were discussed at length during its consideration in Congress, so many modifications took place that a general summary of the law as finally enacted seems advisable.

THE SECTIONS.

Section 1 provides that on and after the first day of March, 1915, every person who produces, imports,

manufactures, compounds, deals in, dispenses, sells, distributes or gives away opium or coca leaves or any compound, manufacture, salt, derivative or preparation thereof shall register, with the collector of internal revenue of the district, his name and place of business, the office of a physician, or residence in the absence of an office, being considered the place of business. At the time of registration and on the first day of July annually thereafter, each person who performs any of the acts covered by the bill must pay to the district collector of internal revenue a special tax of one dollar per annum. Officers of the United States government lawfully engaged in purchasing such drugs, or officers of any state, county or municipality purchasing drugs for public hospitals, are exempt.

Section 2 provides that it shall be unlawful for any person to sell, barter, exchange or give away any of the specified drugs except in pursuance of a written order from the person to whom the drugs are sold or given, which order must be on a form issued in blank by the Commissioner of Internal Revenue. These orders must be made out in duplicate, one copy to be written by the person ordering the drugs and other by the person filling the order, and both copies must be accessible to the revenue officer for a period of two years. The following acts are exempt: The dispensing or distribution of any of these drugs to a patient by a physician, dentist or veterinary surgeon, registered under this act, in the course of his professional practice only, provided the person dispensing shall keep a record of all such drugs for a period of two years. The filling of a prescription written by a physician, dentist or veterinary surgeon, registered under the act, is also exempt. Such prescriptions must be dated and signed by the physician and must be preserved by the druggist for a period of two years. The various forms and blanks required shall be furnished by the Commissioner of Internal Revenue at a price not to exceed one dollar per hundred.

Section 3 provides that any registered person shall on request of the collector of the district render a sworn statement of the quantity of the prescribed drugs received by him during the past three months and the names of the persons from whom they were received.

Section 4 forbids interstate commerce in these drugs, except by a registered person, common carriers being exempt.

Section 5 provides that all records shall be open to the inspection of the officers of the Treasury Department or officers of any state or territory or municipality charged with regulating the traffic in the specified drugs. Certified copies of returns can be secured from the collector of internal revenue by state or municipal officers. The disclosing of information except for the enforcement of the act is forbidden.

Section 6 provides that the act shall not apply to the sale, distribution, giving away, dispensing or possession of preparations which do not contain more than two grains of opium or more than one-fourth grain of morphine or more than one-eighth grain of heroin or more than one grain of codein or any salt or derivative of them in one fluidounce, or if a solid or semisolid prepara-

1. Journal A.M.A., Feb. 6, 1915.

tion, in one avoirdupois ounce, or to liniments, ointments, or other preparations prepared for external use only, except those which contain cocain or any of its salts or alpha or beta eucain. Decocainized coca leaves or other preparations of coca leaves which do not contain cocain are also exempt.

Section 7 provides for the extension of all internal revenue laws so as to make them applicable to this act.

Section 8 provides that no person not registered under the provisions of this act shall have in his possession or under his control any of the specified drugs, such possession or control to be presumptive evidence of the violation of this act. Employees of registered persons, nurses under the supervision of physicians, dentists or veterinary surgeons registered under this act or the possession of drugs in accordance with a prescription of a physician registered under the act are exempt.

Section 9 provides a penalty of a maximum fine of \$2,000, imprisonment of not more than five years or both for violations of the law. Section 10 authorizes the Commissioner of Internal Revenue to appoint necessary persons to enforce the law. Section 11 appropriates \$150,000 for carrying it out, and Section 12 provides that this act shall not amend or repeal the previous laws on this subject.

THE REGULATIONS.

The regulations are somewhat more illuminating, as they form the application of the law to specific conditions. The registration fee for the period remaining from March 1, 1915, to July 1, 1915, is prorated at 34 cents, remittance to be made in currency, money order or certified check. Application for registration blanks should be made to the collector of the district. Each application will be given a registry number which will be permanent and which will be entered on all blank orders issued to the applicant. All applications will be recorded alphabetically by classes, and coupon stamps to the amount of the special tax required will be furnished by the collector. Orders for any of the specified drugs must be made on the prescribed form, supplied by the collector of internal revenue bearing the registry number and signature of the person ordering the drugs. All orders must be in duplicate, the duplicate retained by the maker and the original by the person filling the order, and both copies must be kept on file for two years in such a way as to be readily accessible to the inspecting officers. A written order is not required for the dispensing or distribution of any of the specified drugs to a patient by a physician registered under this act in the course of his professional practice, but a record of drugs so dispensed must be kept by each physician in a suitable blank book to be provided by the physician, the records showing the date, the kind and quantity of drugs dispensed and name and residence of the patient to whom the drugs were given. Prescriptions must be dated and signed on the day issued, and must contain the name of the physician and the name of the person for whom the prescription is filled. Druggists are required to file such prescriptions separately or else to keep a separate record of such prescriptions, showing the file number in each case. In addition

to the signature of the physician, the prescription must state the registry number, the location of the office of the physician and the name and address of the person for whom such prescriptions are written. Druggists are required to refuse to fill prescriptions that are not so signed, or any prescriptions that they have reason to suspect were fraudulently issued. The dispensing of such drugs by druggists, except in accordance with the physician's original prescription, is forbidden. Refilling of prescriptions containing habit-forming drugs is therefore prohibited under this law. Each person dispensing these drugs directly to consumers is required on the first day of March, 1915, to prepare and keep on file an inventory of all such drugs on hand at that time.

Copies of the law, and the regulations with an appendix giving the collection districts and the address of the collectors of internal revenue for each district, can be obtained from the Commissioner of Internal Revenue at Washington or from the collectors of the various districts. The pamphlet is Internal Revenue Regulations, No. 35, dated January 15, 1915.

THE HARRISON LAW AS APPLIED TO PHYSICIANS.

After three years' discussion, this bill has finally become a law, being signed December 17, 1914, and becoming effective March 1, 1915. Its object is to limit the sale of habit-forming drugs to legitimate purposes by requiring a record of all transactions in such drugs. Any physician who dispenses or prescribes any drug preparations containing opium or coca leaves or any of their derivatives is required to register with the collector of internal revenue of his district and to pay an annual registration fee of one dollar. This is prorated for the period from March 1, 1915, to July 1, 1915, at 34 cents. Physicians dispensing their own drugs must use the blank prescribed by the commissioner of internal revenue in ordering their supplies, and must keep a record of all habit-forming drugs dispensed to patients. Physicians prescribing drugs must sign their full name and give their registration number with the name and address of the patient on each prescription. All persons having such drugs in their possession March 1, 1915, must make an inventory of such drugs showing exactly the amount on hand at that time. This inventory, which must be verified by affidavit, is kept by the individual and is not filed with the commissioner. One important point of controversy between the physician and the druggist is settled by the ruling of the commissioner of internal revenue. Only the original of prescriptions containing these drugs can be filled. The refilling of prescriptions is forbidden. Patients desiring an additional supply of such drugs must procure an original prescription from the physician. The law also requires a general registration of all physicians, dentists, druggists and veterinary surgeons, and only such persons will be allowed to dispense or prescribe these drugs. This law is a legislative experiment. Some time, many regulations and several amendments will probably be necessary before it can be reduced to smooth working order. In the meantime, physicians should at once take two precautions: They should make immediate application to the deputy commissioner of internal revenue of their district for registration, and they should

make an inventory of all drugs and drug preparations in their possession containing opium or cocain, so that when the law goes into operation, March 1, each physician may have written evidence of the amount of these drugs in his possession at that time. Whether or not it will be possible to put so sweeping a measure into effective operation in so short a time remains to be seen; but physicians can give material assistance in the enforcement of the law, and can relieve themselves of any danger of embarrassment by taking these two steps at once.

THE MEDICAL AND DENTAL PROFESSIONS.*

Reviewing the history of medicine from the present time to the earliest authentic records, we find closely associated with it, the practice of dentistry. The early Greek, Egyptian and Assyrian dentistry was not a distinct science but merely a branch or specialty of the broader profession. From the time of Avesta, Plato and Herodotus, we find that specializing in the different branches of medicine was a common, if not regular, practice and many of these specialists exercised their arts only on the teeth and adjacent structures. Coming up through the years, the same conditions still hold until comparatively recently. It was in 1839, when the Baltimore College of Dental Surgery was incorporated, that dentistry took its place in the professions as a definite and distinct science, which, however, is based on many of the same general fundamentals as the mother-science. The study of pathology, anatomy, therapeutics and pharmacology is as essential to the dentist—though in a less degree—as to the physician.

At the present time there is no sharply distinguished border line between the two professions and our work is so closely associated that it is only by a friendly and intelligent co-operation we are able to render the best services to the general public. A very prominent physician has said: "A keener insight of dentistry would serve to make us all better physicians," and it is true, certainly, that a broader knowledge of medicine will enable dentists to get the most out of their work. Of course, a complete and detailed education in the anatomy and pathology of the whole body would be as unnecessary to us as the technic of cavity preparation and porcelain shading would be to you. What we are mutually interested in, are the conditions, pathologic and otherwise, which we severally meet occurring more or less in each profession. To be specific in a few instances:

In oral hygiene, we have an example of perhaps the greatest and most important mutual interest and it is here that the physician's broader education in dentistry would prove to be possibly of the greatest value. In the case where he is called upon to remedy some systemic disease, were he sufficiently acquainted with the value of oral prophylaxis, he would realize that the sterilization—as far as possible—of the mouth, is as important to the patient's welfare as the sterilization of the water he drinks and the regulation of his diet. When the body vitality is low, when ingested drugs and regurgitated stomach fluids, which are acid in most cases, work havoc on the teeth and gums, decay, erosion and pericementitis are almost certain to follow. It is here that a few words of instruction from the physician would be of great benefit. The patient or his nurse should be impressed with the value and necessity of the hygiene of the mouth and directed to thoroughly cleanse his teeth several times a day, especially in the morning and the last thing at night.

Rigg's disease or pyorrhea alveolaris is another field wherein the dentist and physician can work in unison to accomplish the best results. Most scientists agree that pyorrhea is in many cases not a local disease but rather a localized manifestation of some systemic pathologic condition, caused by the infection, whatever it may be, following the line of least resistance and finally appearing around the teeth where it finds a media ideal for propagation. The toxins from this infection are returned to the system as a whole by being swallowed with the food, saliva, etc., thus completing the cycle that every physician and every dentist should understand: the chronic conditions accompanying pyorrhea, causing pyorrhea and being caused by pyorrhea. We dentists are not sufficiently educated in medicine to treat this disease systemically. Our best efforts usually are to scrape and polish the teeth in the infected area, removing all foreign material and applying a counter irritant or something similar to stimulate the growth of healthy tissue and perhaps prescribing an antacid or a saline cathartic. When we have done this *our* limit is reached, and we then should refer the patient to his physician and co-operate with him to discover and remove the conditions resulting in the disease and thus assure as far as humanly possible, a complete and permanent cure.

One of the commonest conditions a dentist meets with in his daily practice is mal-occlusion which causes improper and incomplete mastication.

*Read before the Manistee County Medical Society, January 15, 1915, by W. S. Forth, D.D.S.

tion and therefore malnutrition to a greater or less degree. The causes affecting the occlusion of teeth are many and varied, ranging all the way from heredity to thumb-sucking in infants. Some come entirely within the field of the dentist, while in others the physician only is concerned. Take for example the habit infants form of sucking the thumb or the so-called pacifier. The physician is often called into the home to treat children much too young to be under our care. A few words in regard to the evils resulting from this habit—the narrow arch, and irregular, illy-formed teeth would do as much toward producing good occlusions as months of our work would do later. Another common cause of irregular teeth is adenoids and tonsils. In the former, the mouth breathing will often cause the high narrow arch, protruding upper centrals, thick lower lip and receding chin characteristic of this class of mal-occlusion. Enlarged tonsils quite frequently result in an undershot jaw due, no doubt, to the child's habit of protruding the chin and thus producing the irregularity. An early removal of these obstructions, all other conditions being favorable, would probably assure regular articulation of the permanent teeth. Extraction either of the permanent or deciduous teeth is without a doubt the most common cause of mal-occlusion. An aching tooth does not necessarily imply the need of extraction. A treatment properly applied alleviates the pain just as quickly and without ruining the natural occlusion of the remaining teeth. Fortunately the physician who uses the forceps regardless of results is the exception rather than the rule.

Facial neuralgia illustrates a case where the physician and dentist can combine to afford the patient relief. The majority of cases of this malady may be traced directly or indirectly to local conditions of the teeth such as pulpitis, calcific deposits, pericementitis, impactions and cementosis. By working together both in diagnosis and local and systemic treatment, definite results should be more easily and surely obtained.

In regard to the care of the teeth in pregnancy. A pregnant woman is not so ready to inform her dentist of her condition as she is her physician and here is his chance to co-operate with the dentist. The old adage, "An ounce of prevention is worth a pound of cure" is very well illustrated here. Many times in pregnancy the gums are irritated and inflamed about the necks of the teeth due probably to changes in the blood and lack of care. Salivation also often

occurs especially during the last few months and hyper-acidity of the saliva is nearly always present and as Black so aptly puts it, "You may sometimes have acidity without caries, but never caries without acidity." Recommending your pregnant patient to her dentist in the first few months will go a long way towards decreasing any nervousness and irritability that might result from diseases of the teeth and gums. The old saw, "For every child a tooth" need not apply if proper care is exercised at the right time.

Diseases of the mouth such as tumors, cysts, ranulas, antral infections, etc., are hardly in the realm of the ordinary dentist, but nevertheless, he can often be of assistance to the surgeon in the cure of these diseases either in diagnosis or by helping to locate and remove—or correct—the causes resulting in them.

Dr. Stewart, of New York, claims that many times serious systemic or organic troubles may be suspected and then diagnosed from early symptoms in the mouth when they would not otherwise be suspected until a much later time. Among these diseases he names tuberculosis, syphilis, Bright's disease and diabetes. Talbot says that the gums are the first structure in the body which indicate systemic defect and Dr. Mayo goes on record as stating that the next great field of preventive medicine must be opened up by the dentists. On the strength of what these leading representatives of both professions claim, I have no hesitation in stating that co-operation with, and education of each other will make us better physicians and better dentists and enable us to increase the field of our several professions materially.

Editorial Comments

Do not fail to register under the Harrison Bill which goes into effect March 1st. The fee until July 1 is thirty-four cents. Registry is made at the office of the U. S. Collector of Internal Revenue either in Detroit or Grand Rapids. A full comment on the law will be found on the editorial page. It applies to every physician.

A large delegation of Michigan Physicians should attend the A.M.A. meeting in San Francisco in June and aid in securing the selection of Detroit as the place for holding the 1916 meeting. The entire expense of the trip is

reasonable and the opportunity of combining pleasure and profit is unusual. An excellent opportunity for making that western trip presents itself to you. Better plan on going now.

The information reaches us that certain physicians along the northern part of Monroe county are in the habit of charging 30 cents for office consultations, which prices includes medicines. Also that a certain physician in the same county publishes the fact that he starts a savings account in a local bank for the amount of \$5.00 for every child that he delivers.

The former condition of affairs is a sad commentary upon the reputation and business integrity of the doctor who will give his time, advice and medicines for 30 cents. If they are appraised at that price they automatically become stamped as worthless and that individual should pull down his sign, bury his diploma in his trunk and set out seeking employment as a factory hand or itinerant vender of pins and thread. The individual who is starting a savings account for each infant may be an excellent advertising man for a bank, but falls far beneath the dignity of the profession and deserves nothing but severe condemnation for the folly of his ways.

The Monroe County Medical Society might well arouse itself and take such steps as will secure the correction of these practices in their county.

There is a fraternal organization known as "Eagles" which employes one or two physicians to render the necessary medical and surgical attention to the members of this lodge at a yearly assessment of \$1.00 per member. This practice has been adversely commented upon on several occasions and no reputable physician will agree to render an unknown quantity of professional services for no further remuneration than a dollar a year per family. The climax was reached, however, when within the past few months a lodge of Eagles in one of the northern counties of the state instituted a campaign for new members. Two teams of solicitors were formed. Each of these teams had as captain a local physician. Two medical men directing the campaign for new members and thus soliciting families whom they agree to attend for one dollar per year per family.

We are undecided whether to cry out: "God forgive them for they know not what they are doing," or to pronounce a harsh condemnation. Any member of the profession stooping to such

low regions of lost professional integrity is committing a travesty upon himself and the people of his community. Their reason and judgment has vanished and they have become bereft of the right to associate with honorable men.

Recently, while on a railroad journey, we came across a folder setting forth how that particular corporation was safe-guarding its passengers in providing clean coaches, analyzed and certified drinking water and sanitary bedding in the sleeping cars. A further description was given as to how the Safety First movement was being instituted among its employees and the expense thereby entailed.

The thought occurred, that commendable as is the work thus described, why not take a step of advancement. In spite of the effort put forth for increased safety the law of averages daily develops a certain percentage of injuries on and around trains. Some are trivial and some are so serious as to produce open wounds of lesser or greater degree. It has also been established that the final result of any injury producing a wound is greatly influenced by the care that wound receives during the first few moments after its infliction; that the great desideratum is to promptly cover that wound with a sterile protective dressing to prevent infection with its dismal troupe of potential eventualities.

In view of which we deem it advisable that every engine, coach, caboose and station be equipped with at least two or more first aid packages containing sterile gauze bandage and triangular bandage, and that trainmen and depot attendants be properly instructed how to promptly apply them in every instance where a wound is sustained.

The cost of thus equipping a railroad is not prohibitive. The time was, and in instances is yet, where these same railroads equipped every passenger and baggage car with a saw, sledge hammer and axe for emergency use in wrecks. In the present day, with steel coaches, such tools are of little avail. The possibility of their need was comparatively rare yet the expense of securing them did not prevent their placement in the cars. The need of a first aid package is of greater importance and need today and their cost is much less than the price of the mentioned wrecking tools. Consequently cost and expense cannot be advanced as a refuting argument.

A little agitation of the subject would bring about the institution of the suggestion here advanced. Personally we have experienced five

occasions where the absence of such surgically clean bandaging was felt; in two instances they would have been means of a financial saving sufficient to equip several hundred cars with first aid packages.

The employers obligations to his employee sustaining an injury is recognized. In a like manner should a similar responsibility be recognized by transportation officials in regard to their patrons. Eventually the first investment would cause a subsequent demand that would be overly satisfactory accruing from a lessened number of fatal or permanent injuries that require a financial settlement to assuage the result that might have been but transitory were a first aid package available at the time the injury occurred.

Your dues, if unpaid, must be received at this office not later than the 20th of this month if you are desirous to continue to receive *The Journal*, remain in good standing in the Society and participate in the protection afforded by the defense league. Remit to your county secretary at once.

The next meeting of the Clinical Congress of Surgeons of North America will be held in Boston during the week commencing October 25.

We have been able to secure contracts for advertising space from the following firms: W. B. Saunders Co., medical book publishers; Squibb, manufacturing chemists; Hope Hospital, for the ethical treatment of the liquor and drug habits; Santa Fe Ry. Co., the popular California route; O. & W. Thum Co., fly paper and tree protector manufacturers. These firms merit your patronage. In a like manner do also our older advertisers. They are all reliable firms and our members are in duty bound to think of them and demonstrate to them that *The Journal* is a valuable advertising medium. Do not forget to patronize our advertisers first and in preference to all others.

Correspondence

Chicago, February 9, 1915.

Dr. Frederick C. Warnshuis, Editor.
Grand Rapids, Mich.

Dear Sir:

Under separate cover I am sending you a reprint from the Medical Recorder, "Treatment of Drug Addiction and Alcoholism" and will be greatly pleased if you can give this article a notice in your Journal and a synopsis if you have the room, in

order to especially bring the service that we are able to give here to the attention of those who need treatment for the correction of drug addiction and alcoholism. The first of March a general law goes into effect regarding the use and sale of drugs, and your influence, coupled with the results that I am delivering and the endorsements which I am receiving in Chicago, will help physicians to a knowledge that we are delivering a medical result far beyond the ordinary. We have treated some of your Michigan people with perfect results, but as with cases of this kind, I cannot and do not make use of the misfortune of those who place themselves under my care to secure increasing new business.

I conduct a Sanitarium exclusively for the treatment of drug addiction and alcoholism, as my ad in your *Journal* states, and personally look after the treatment and have nurses that I have trained in the work for this purpose.

Thanking you for your personal influence in your *Journal* in presenting the preparedness of my Institution to handle such cases successfully, I am

Very truly yours,

WM. K. McLAUGHLIN, Superintendent.

Deaths

Dr. John F. Hicks.

Resolutions adopted by the Menominee County Medical Society on the death of Dr. John F. Hicks:

Whereas, In view of the loss we have sustained by the death of our friend and associate, Doctor John F. Hicks, and of the still greater loss sustained by those who were nearest and dearest to him, therefore, be it

Resolved, That, as a just and fitting tribute to his memory, we express our regret at his removal from our midst, and we mourn for one who was in every way worthy of our respect and esteem, and, furthermore, that we sincerely condole with the family of the deceased on the dispensation with which it hath pleased Divine Providence to afflict them, and we commend them for consolation to Him who knoweth best and who doeth all things well, Further, be it

Resolved, That this heart-felt testimonial of our sympathy and sorrow be spread upon the Records, and that a copy of it be conveyed to the family of our departed friend and brother by the Secretary of the Society.

Signed,

B. T. Phillips,
R. G. Marriner,
H. A. Vennema.
Committee.

A Tribute to the Memory of the Late Dr. John F. Hicks by one who had worked beside him for nearly forty years:

He was born in Blenheim, Ontario, May 27, 1838, and died in Menominee, Mich. Oct. 16, 1914. His boyhood days were spent on a farm in the then wilds of Canada. The early events, a thirst for an education and after gaining what was to be had in the local schools, he taught for a time and then entered the University of Michigan. During his vacations he practiced in Wisconsin, the first summer in Green Bay and the next in Appleton, where he met Miss Jean McPherson, a graduate of the Lawrence University to whom he was married. The result of the union was one daughter, who died in infancy, and three sons, Ernest, Walter and Earl. Mrs. Hicks died in Menominee in 1890, but still lives in the memory of the older residents as one much beloved and sincerely mourned.

After graduating from the University of Michigan in medicine in 1865, he returned to his home in Canada but since his diploma was not recognized there, he was compelled to spend a year in Toronto University receiving an additional degree therefrom. He then entered practice in his home town but soon removed to Duart, a small country place where he remained ten years, engaged in a most laborious work covering a territory of fifteen miles in each direction. With few medical men within reach he was necessarily thrown upon his own resources and I opine that this experience coupled with the fact that the atmosphere of his home was of so high a literary order, broadened and enlarged a mind early interested in scientific matters.

He appeared among us in 1877 in the prime of his mental and physical manhood. He possessed a well stored mind, was a ready speaker, and at all times championing the cause of humanity. He entered upon his professional and civic life here with great enthusiasm. He occupied many places of trust and responsibility serving as a member of our State Legislature, several times in the City Council, and for many years Health Officer of this city and county physician. He was also long a member of the U. S. Board of Pension Examiners where he gave useful service and I can attest that he always treated the old veterans with marked consideration and fairness.

In the performance of these various civic duties no taint of suspicion ever arose as to his honor. Professionally he affiliated with the

American Medical Association, the Wisconsin State, The Fox River Valley, Upper Peninsula, and local Medical Societies. While Health Officer he was a pioneer in the agitation for the purity of the water and milk supply, first advocating the tuberculin test of cows, and other measures for the protection of the health of the community.

By us who worked with him through the years, he was recognized as a man well grounded in the profession, wise in council, and kind in the sick room, giving all that was in him to the afflicted. He had no fine spun theories, no bluster for show, simply a plain hearted man, glorying in the relief of suffering and utilizing only those remedial agents, the effect of which he fully understood.

The Doctor was married in 1894 to Mrs. Catherine Ramburger of New Jersey. She, with Dr. W. R. Hicks of Menominee alone survive him, and he is mourned not only by his medical confreres but by the community as a whole, which he served so long and so well.

B. T. Phillips, M.D., Rush '70.

Dr. Homer D. Hodge of Jackson, aged 60, died January 26 at the State Hospital, Kalamazoo, where he has been confined since Jan. 9.

Dr. Eugene Grignon of Menominee died Feb. 2, 1915. Dr. Grignon was one of the best known physicians in that part of the country. He was a member of the A.M.A., the M.S.M.S. and the Menominee River Medical Association. He is survived by a widow and one son.

Dr. E. O. Chapoton, one of the leaders of his profession, died at his home, 370 Woodward Avenue, Detroit, Feb. 6. Dr. Chapoton was 62 years old. His death was entirely unexpected, and followed a regular day's work.

Resolutions adopted as the sentiment of the Faculty of the Detroit College of Medicine and Surgery, at a meeting held Monday, February 8, 1915.

Whereas, Our friend and colleague, Doctor Edmund A. Chapoton, after a long and active career of usefulness, has been suddenly removed from our midst by death, to our great and heartfelt sorrow, therefore be it

Resolved, That in this dispensation of the Divine Will we feel most keenly the stroke which has deprived us of the counsel, companionship and assistance of one whose many excellent qualities of mind and heart had endeared

him to each and every member of this institution;

Resolved, That in his eminent abilities, untiring energy, and amiable character, we recognize all the qualities that go to constitute the honorable physician: a mind alert and observant, a keenly discriminating judgment, and diligence in study marked him as a teacher;

Resolved, That our sympathy and sincere condolence are hereby tendered to the family.

EUGENE SMITH,
DANIEL LaFERTE,
DAVID INGLIS.

Committee.

Dr. Gerald O. Edmunds of Honor died suddenly of apoplexy Thursday, February 11.

Dr. Wm. Breakey

In the death of Dr. Wm. Breakey, for more than a half century a member of the medical faculty of the University of Michigan, Ann Arbor loses one of its oldest and best known citizens. Dr. Breakey was a Mayflower descendant and a native of New York State. He is survived by a widow, a daughter and one son, Dr. James F. Breakey of Ann Arbor.

State News Notes

With a reception for the public in the afternoon and evening and a meeting of the Marquette County Medical Society in the evening followed by a supper, the new St. Luke's Hospital was formally opened January 28. The building is one of which Marquette may well be proud. The approximate value of the structure is \$70,000 and its equipment is worth \$30,000.

Mercy Hospital at Jackson, under the auspices of the Sisters of Mercy, was opened for public inspection February 20. The building was formerly occupied by the old White Cross Sanitarium and has been thoroughly renovated and remodeled, the entire equipment being new.

Dr. E. V. Joinville of Detroit has just returned from a post graduate course in eye, ear, nose and throat work in the New York Post Graduate School, New York City. He is now associated with Dr. Geo. L. Renaud of Detroit.

Dr. Fred Townsend of Sault Ste. Marie will spend the balance of the winter in California, and while there will look around with a view of locating permanently if he is satisfied with climate and professional prospects.

Dr. J. B. Griswold of Grand Rapids was operated on January 28 for an infection of the gall bladder. The operation has been an entirely successful one. It was performed by Dr. A. E. Halstead of Chicago.

Dr. A. M. Wilkinson of Charlevoix, who was sued for malpractice and whose case was recently heard in circuit court, won out when Judge Mayne declared the prosecution had failed to establish a case.

Kalamazoo will have a foundling hospital completed and ready for use within the next two years. The Sisters of St. Joseph are behind the plan to build the new hospital.

The regents of the University of Michigan have authorized that five hundred dollars be added to the medical library fund, if on investigation, it was deemed best.

Dr. Robert Cary Jamieson, Kresge building, Detroit, has limited his practice to diseases of the skin and syphilis.

Dr. Geo. T. Britton of Kalamazoo, who underwent an operation recently, is reported as recovering satisfactorily.

Dr. Daniel G. Cook of Holland is a patient at Mayo Brothers' Hospital at Rochester, Minn.

Dr. P. W. Pearsall of Muskegon has moved to Cedar Springs where he will continue practice.

County Society News

ALPENA COUNTY

The inaugural banquet of the Alpena County Medical Society was held at the Elks Temple Jan. 21, 1915, at 6 p. m. The hosts on this occasion were Drs. W. A. Secrist, Leo Secrist and C. M. Williams. The guests were the wives of the physicians. Following the banquet the newly elected officers of the society—C. M. Williams, Pres.; J. D. Dunlap, Vice-Pres., and Otto Bertram, Secretary—accepted their respective offices.

The program of the evening was, with the exception of the inaugural address of the President, in the hands of the doctors' wives, and included a recitation by Mrs. J. W. Small, a vocal solo by Mrs. E. E. McKnight, and a presentation address by Mrs. A. E. Bonneville. Some of the friends of the retiring President, Dr. J. W. Small, in token of his efficient service, and as showing their appreciation of his modesty, had prepared a leather medal of generous proportions, which Mrs. Bonneville becomingly pinned upon his bosom.

The inaugural address of the President was a plea for greater efficiency in medicine. He recommended a particular specialty for the several physicians of the city, for which they should prepare by special study, so that the whole ground of scientific medicine would be covered, and would make co-operation among the physicians the word.

PROGRAM FOR 1915.

Entertain—W. A. Secrist, Leo Secrist and C. M. Williams.

PROGRAM.

Solo - - - - Mrs. J. W. Small
Address - - - - Mrs. A. Bonneville
Solo - - - - Mrs. E. E. McKnight
Recitation - - - - Mrs. S. T. Bell
Inaugural Address - - - - C. M. Williams

February 18—8 P. M.

Office of Dr. Arthur Wilkinson.
(1) Asepsis and Antisepsis A. Bonneville
(2) - - - - F. J. McDaniels
Public lecture at Temple Theatre, 8 p. m.
Entertain—J. D. Dunlop, O. Bertram, James Eakins, R. A. R. Miller—Banquet in Walter Parker's honor.
Walter Parker, Detroit
- - - - "The Conservation of Vision."

March 18—8 P. M.

Office Weather Bureau (Federal Building).
The Doctor and His Money.
(1) How to Make It - - E. E. McKnight.
(2) The Weather Bureau - Frank Jermin.

April 15

Joint meeting with Alpena Bar Association.

May 20

Entertain—John Purdy, George Lister.
Guest—Reuben Peterson, President State Medical Society.

Clinic at Donald McRae Hospital—2 p. m.
Country Dinner 6 p. m.

The Doctor and Mis Money.

(2) How to Get It - - J. D. Dunlop.
Address - - - - Reuben Peterson

June 17.

Entertain—E. E. McKnight, L. A. Gauvreau.
Program—The Doctor and His Money.
(3) How to Invest It - - J. W. Small
Paper - - - - Geo. Lister.

July 15—Annual Picnic.

Committee in Charge—Mrs. S. T. Bell, Mrs. J. D. Dunlop.

August 19.

Entertain—J. W. Small, A. Komoraski.
Paper - - - - S. T. Bell
Paper - - - - George McKeen, Detroit.

September 16.

Entertain—Wm. Henryes, John Wilson.
Paper - - - - W. A. Secrist.
Paper - - - - John Purdy

October 21.

Entertain—A. E. Bonneville, D. A. Cameron.
Paper - - - - Wm. Henryes.
Paper - - - - Otto Bertram.

November 18.

Entertain—F. J. McDaniels, S. T. Bell.
Paper - - - - Leo Secrist
Paper - - - - D. A. Cameron.

December 16.

Annual Meeting.
Entertain—C. M. Williams, J. D. Dunlop, Otto Bertram.

OTTO BERTRAM, Secretary.

BAY COUNTY

On the 14th of December, 1914 our annual election of officers was held at the Hotel Wenonah. The following officers were elected:
President—Dr. Hubbard Bradley.
Vice-President—Dr. Floyd H. Randall.
Secretary-Treasurer—Dr. A. F. Stone.
Board of Directors—Drs. Hubbard Bradley, Floyd H. Randall; A. F. Stone, A. W. Herric, T. A. Baird and H. B. Morse.
Members of Legal Committee—Dr. R. Perkins.
Delegates to State Society—Drs. C. A. Stewart and A. G. Stone.

Alternates—Drs. Grosjean and Goodwin.
Dr. C. A. Stewart, the retiring president, entertained fifty-four members of the Society with an elaborate banquet. At the conclusion of the banquet Dr. Stewart made a very interesting speech on the condition of the society and introduced Dr. Guy L. Kiefer, the speaker of the evening, who gave a very interesting address on the relation of one physician to another. At the conclusion of his address a vote of thanks was given by the society to Dr. Kiefer for his address and a vote of thanks to Dr. Stewart for the entertainment provided for the society.

During the past two years our society has made great advances in attendance and in interest shown by the members and it might be well to state what has been accomplished and how it has been done.

Previous to the past two years the attendance has been anything but pleasing, averaging about fourteen. The society, through the courtesy of Dr. C. H. Baker, met twice monthly in his office. The attendance was small and the interest not very intense. Two years ago when Dr. G. Moore of Munger was elected president a change took place. The Program Committee worked hard and were well supported. In that year the attendance jumped to an average of twenty-four and during the past year the average attendance was twenty-six at the meetings which took place twice monthly. Now everyone looks forward to the meetings and is interested in the society. The society is flourishing and the meetings are always very well attended.

These results have been obtained as follows: First, everyone is notified three days before a meeting by postcard. Then late on the afternoon of the meeting all town members are called up by phone and reminded of the meeting. Secondly, we found that out-of-town men drew well and so about one-half of our speakers we get from outside the city. For instance, during the first year we had Dr. Angus McLean, Dr. Wesley Taylor, Dr. Buesser, Dr. C. G. Jennings of Detroit and Dr. H. Randall of Flint. We have had each year two clinics held by out-of-town men. For instance, in 1913, Dr. Andrew Biddle held a clinic on skin diseases and Dr. La Ferte of

Detroit held an orthopedic clinic. The material was worked up by local men in good shape before the arrival of the time for the clinic.

Two meetings a year are purely social in character, usually banquets, and at one of them the wives of the members are entertained. When we have an especially good meeting in prospect we try to invite Saginaw and Flint society members to be present, as in the case of Dr. Walter Connell of Queen University who read a paper on "Acidosis and Acid Intoxication" and was greeted by an audience of eighty-seven physicians from Bay City, Saginaw and Flint.

Local physicians giving papers are requested to confine the paper to their own experience, to give the subject to the secretary at least two weeks before the meeting and to use due diligence in preparing it. If a physician is asked to give a paper and agrees to do so and then without good reason disappoints the committee, he is not asked again by the committee. It has come to be considered an honor to be asked to give a paper and during the past two years local men have given many excellent addresses.

Now as to the place of the meetings. In that we think lies a great deal of our success. When out-of-town men are to be guests of the society the meetings are held at the Wenonah Hotel in the "Ordinary" or at the Bay City Club and a banquet is given at about \$1.00 per plate. This is also done at the two social meetings of each year.

At all other times the society meets at the home of some member of the society as his guest and after the routine business and the paper of the evening refreshments are served and a social half-hour is held. This I think has done more to create good feeling and to stimulate society interest than any other thing.

We are now embarked on our third year of large attendance and high interest and I might say that at our last meeting there was an attendance of over forty including several physicians from Saginaw and the surrounding towns. Dr. C. G. Darling of the University of Michigan read a paper on "Stomach Surgery."

If the above offers any hints to other societies we will be glad.

Dr. A. F. STONE, Secretary.

BRANCH COUNTY

At the annual meeting of the Branch County Medical Society the following officers were elected.

President—Samuel Schultz, Coldwater.

Vice-President—Carl Sears, Quincy.

Secretary-Treasurer—A. G. Holbrook, Coldwater.

Member Medico Legal Committee—W. H. Baldwin, Coldwater.

The annual meeting was held Jan. 19 at the parlors of the Presbyterian Church, Coldwater, and a 6 o'clock dinner was served, after which the business was transacted and the following program carried out:

"High Blood Pressure."

H. W. Whitmore.

"Observations Concerning Exophthalmic Goitre."

C. J. Harley.

"Disease of Prostate and Adnexa."

W. H. Baldwin.

A. G. HOLBROOK, Secretary.

EATON COUNTY

The Eaton County Medical Society met at Charlotte Jan. 28, 1915. President W. E. Newark presiding.

The business meeting was held in the forenoon and at this session there were eleven applications voted on and all were made members. Following this the society was entertained by the Charlotte Sanatorium for twelve o'clock luncheon, in honor of Drs. Camp and McNamara.

At the afternoon session the scientific program was carried out as follows. The first paper taken up, Insomnia—Its Causes and Treatment, by Dr. Camp. This was an exceedingly interesting topic for all, especially the general practitioner. The second paper on the program, Direct Blood Infusion (with illustrated charts) by Dr. McNamara. This subject was very well handled and interesting to all.

A vote of thanks was extended to Drs. Camp and McNamara, also the Charlotte Sanatorium. G. W. BYINGTON, Secretary.

GENESEE COUNTY

Since our last report a number of interesting papers have been read before the society. Among them one by Dr. W. H. Graham of Mt. Morris on "Placenta Praevia." Dr. Graham's experience as a general practitioner, has been rather unique in the number of placenta praevia cases he has seen. In nineteen years he has attended eleven cases and reports one death. One case he has attended twice who gives a history of the same complication on another occasion, making a total of three times this patient has had placenta praevia. The one case that terminated in death had a severe hemorrhage before help was available.

Treatment consisted of tamponing the placenta against the uterine wall until the foetal head had descended sufficiently to stop the hemorrhage, or where indicated podalic version was performed. In none of these was surgical interference instigated, and there were no untoward results to the mother except the one mentioned which was due to the delay in obtaining medical attention.

Dr. A. M. Hume of Owosso, councilor for the sixth district, addressed the society on the topic "Why a Medical Society." The standpoint taken was for better organization, with special reference to better medical legislation.

On the evening of February 10 we were favored with the presence of Dr. Reuben Peterson of Ann Arbor. Following a dinner at the Elks Temple, Dr. Peterson read a paper entitled "Gall Stones Incidental to Pelvic Diseases." This paper brought out a most interesting discussion.

The Constitution has been so amended that in the future delegates to the State Society shall be elected one each year for a period of two

years, the purpose being to eliminate the possibility of the delegation to consist entirely of new men. By retaining a senior member it is believed that the county will receive a more efficient representation than by the one year term as heretofore.

R. S. MOORISH, Secretary.

GRATIOT COUNTY

The Gratiot County Medical Society met in Alma, Jan. 26. For a clinic Dr. Hirschman performed an operation with a local anesthetic for hemorrhoids. Following this Dr. Hirschman showed the causes of some cases of constipation with lantern slides. The doctor also talked on rectal fistula. After Dr. Hirschman left for an early train the regular business of the society was taken up at which Dr. E. C. Burt, of Ithaca, and Dr. J. L. Bender, of Bannister, were elected to membership.

E. M. HIGHFIELD, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

Joint meeting of the Southern Michigan Triological Society and the Kalamazoo Academy of Medicine. Tuesday, February 9, 1915, Academy of Medicine rooms, Public Library building.

Luncheon at the Park-American at 12 noon.

Meeting called to order at 1:30 p. m.

1. Disturbances of Equilibrium Due to Labyrinthine Disease. Lantern slide demonstration.

Dr. George E. Shambaugh, Chicago, Ill.

Discussion opened by Dr. George Winter, Jackson; Dr. Ferris N. Smith, Grand Rapids.

2. Lesions of the Organ of Corti From Loud or Incessant Noises. Lantern slide demonstration.

Dr. Edward J. Bernstein, Kalamazoo.

Discussion opened by Dr. W. G. Bird, Flint; Dr. E. P. Wilbur, Kalamazoo.

There was a special meeting of the Academy on Wednesday evening, January 27. Dr. W. Wayne Babcock, of Philadelphia, gave a paper at this time on Cholecystitis. The secretary made a desperate effort to notify everybody of the meeting. Dr. Babcock has an international reputation and those members that failed to profit by his visit to the city have allowed another opportunity to improve themselves to slip through their fingers.

MARQUETTE-ALGER COUNTY

The January meeting of the Marquette-Alger County Medical Society was held in Marquette at the end of the month in order to accept an invitation to hold the meeting at the new St. Lukes Hospital on the opening day of the new Hospital, January 28, 1915.

The meeting was well attended. Inspection of the new hospital, built upon lines of modern hospital architecture, giving a maximum amount of sunlight to the rooms and halls. The wood work finished in

white paint, gives a cheerful, clean and sanitary impression. The equipment throughout is modern and complete. The hospital has accommodation for fifty-two patients. The modern idea of small wards (four beds) was noted. Some of the "private rooms" are a suite of two rooms with bath. On the third story two operating rooms and a silent obstetrical room with modern obstetrical bed attracted attention.

The February meeting of the Society was held February 17 at the Marquette City Hall. The City Commission kindly offers their room for the meeting of the Society. Papers on "Modified Smallpox" and "Emetin in the Treatment of Pyorrhea" were read respectively by Dr. A. V. Braden and Dr. C. N. Bottum. Discussion of papers was general, making the meeting interesting and profitable. After adjournment lunch was served at the Marquette Club.

MECOSTA COUNTY

The Mecosta County Medical Society met February 8 at the Club rooms in the Harwood block and roll call showed eight members present. The Society instructed the secretary to write our senator and representative in the legislature, endorsing the passage of the new health bill now before that body. Favorable action was also taken by the society toward the amalgamation of the Osceola-Lake Society and the Mecosta County Medical Society. Action on this resolution will be undertaken by the councilor, W. T. Dodge, of this district, and an expression from the members of the Osceola-Lake County Society will be obtained.

The program of the evening was in the hands of Dr. Collins H. Johnston and Dr. R. J. Hutchinson, both of Grand Rapids. Dr. Johnston read a paper on "Artificial Pneumothorax," which was greatly appreciated and awakened a great deal of discussion. Dr. Hutchinson's paper was upon the "Intraspinal Injections in Tetanus." A number of cases were reported and a good live discussion followed his paper.

The following officers were elected for the ensuing year:

President—W. T. Dodge, Big Rapids.

Vice-President—G. McAllister, Stanwood.

Secretary-Treasurer—C. F. Karshner, Big Rapids.

Delegate—L. S. Griswold, Big Rapids.

Alternate—J. B. Campbell, Stanwood.

Following the adjournment of the meeting the society repaired to the Sellas Cafe where a good supper was in waiting and to which the members and guests did justice.

C. F. KARSHNER, Secretary.

SAGINAW COUNTY

The annual meeting of the Saginaw County Medical Society was held at the City Hall Feb. 11, at 8:30 p. m. The meeting was called to order by President McGregor, there being a large attendance.

An interesting case was presented by Dr. Powers for general discussion. A paper upon the subject "Gallstones Incident to Pelvic Disease" was given by

Dr. Reuben Peterson of Ann Arbor. The retiring president, Dr. Gregor, made a brief address, including an explanation of the new Harrison Act.

The election of the 1915 officers took place with the following results:

President—Jas. W. McMeekin.

Vice-President—A. Griggs.

Sec'y-Treas.—A. R. McKinney.

Directors—C. H. Sample, W. L. Dickinson and Robt. Gregor.

Medico-Legal Rep.—W. J. D'Reilly.

The members of the society are becoming more and more interested and enthusiastic over the meetings and a banner year is promised.

A. R. MCKINNEY, Secretary.

ST. CLAIR COUNTY

The regular meeting of the St. Clair County Medical Society was held Jan 7, 1915 at the Elk Club.

After a supper, at which were present thirty-five members, the meeting was addressed by Dr. Udo J. Wile of Ann Arbor. His subject was "Skin Diseases."

The meeting took the form of a clinic, many patients being presented. All were interested and instructed by Dr. Wile's lucid way of diagnosing skin lesions. His clinic was interrupted occasionally by a lecture on the more rare skin diseases. After a very pleasant and profitable evening the meeting adjourned.

On February 4 the St. Clair County Medical Society held the first of their semi-monthly meetings. The meeting was held at the Elks Club and was largely attended.

The feature of the evening was a symposium on Typhoid Fever, conducted by Drs. Clancy, Morris and Frazier, all of Port Huron. The discussion was a very spirited one and reminded the membership of old times.

The next meeting will be held at the Elks Club, Feb. 18, at which a smoker and informal talk will be the entertainment. The plan of the society is to have the first meeting of the month addressed by some local man, while the second meeting will be given over to some man from outside.

R. K. WHEELER, Secretary.

ST. JOSEPH COUNTY

The January meeting of the St. Joseph Medical County Medical Society was held at White Pigeon, Friday, January 29, at 1 p. m.

Topics for Discussion.

1. Should the State Enact Eugenic Laws?

Discussion opened by Drs. Partlow and Andrews.

2. Should the State be Divided Into Health Districts, Not Exceed 30, With a Health Commissioner for Each?

Discussion opened by Drs. J. H. Moe and Dr. R. E. Dean.

Both of the above are before the Legislature this winter.

3. How Can the Good Health of the Public Schools and County Be Best Served?

Drs. Royer and Cameron.

The following officers were elected for the year 1915:

President—S. R. Robinson.

Vice-President—J. H. Moe.

Secretary-Treasurer—K. A. Rogers.

Delegate—Ray E. Dean.

Alternate—D. K. Andrews.

Member Medico-Legal Com.—D. K. Andrews.

WAYNE COUNTY

Monday, Jan. 25—General Meeting.

"Certain Factors Markedly Influencing the Morbidity and Mortality of Surgical Cases."

- a. From the Surgeon's Standpoint.

Chas. W. Moots, Toledo, Ohio.

- b. From the Anesthetist's Standpoint.

E. I. McKesson, Toledo, Ohio.

- c. From the Internist's Standpoint.

J. Willard Stone, Toledo, Ohio.

Discussion opened by Drs. H. K. Shawan, E. G. Martin, C. G. Jennings.

Meeting of Surgical Section, January 18, 1914.

This being a date for a regular meeting, several matters which could not be delayed were brought up for action.

Dr. Bell made a report from the Credit Bureau published in the Weekly of January 4. A flat rate of 25 per cent. is made for collecting, of which 20 per cent. goes to the collector and 5 per cent. to the maintenance of the office of the Bureau. It is understood that the Society will not be involved financially more than \$200 during the first year of the running of the Bureau.

The council reported in favor of establishing the Bureau and of the members who voted by postal card:

225 were in favor.

15 were against.

6 were non-comittal.

Dr. Don M. Campbell then moved that the Society accept the report of the Credit Bureau which was carried.

The following letter was received from Dr. Barrett, of the University of Michigan. All who wish to avail themselves of this excellent chance to hear one of our foremost surgeons will please inform the Secretary, Dr. Simpson, as

Secretary County Medical Society.

Dear Sir:

On behalf of the faculty of the Department of Medicine and Surgery, I have the honor of extending through you, to the Wayne County Medical Society, a cordial invitation to attend the annual celebration of Founder's Day of the Medical Department to be held at Sarah Caswell Angell Hall on the evening of February 22, 1915, at 8 p. m.

The address on this occasion will be delivered by Dr. William Mayo, of Rochester, Minn.

It would be helpful to the committee on arrangements if it might be known how many members may be expected to attend.
Albert M. Barrett.

Monday, Feb. 1—General Meeting.
"The Persistence of Spirochaetes in the Hearts of Apparently Cured Cases of Syphilis."
With lantern demonstrations.
Prof. A. S. Warthin, U. of M.

Monday, Feb. 8—Medical Section.
Short, pithy (10 to 15 minute) talks on Syphilis, Its Modern Status:
(a) Introductory.
Dr. Charles W. Hitchcock.
(b) From Standpoint of the Dermatologist.
Dr. H. R. Varney.
(c) From Standpoint of the Internist.
Dr. W. W. Donald.
(d) From Standpoint of the Oculist.
Dr. Herman Sanderson.

Monday, Feb. 15—General Meeting.
Elucidation of the Water-Supply Situation of Detroit.
Mr. Rich, Sanitary Engineer State B. of H.
Vote on Resolutions Offered by the Staff of Providence Hospital.
Discussion opened by Drs. W. H. Price, A. F. Jennings.
Customary dinner to Mr. Rich at 6:30 p. m.

Physician's Business Bureau.
The Board of Control is composed of: James E. Davis, Chairman; John N. Bell, Vice-Chairman and Manager; Howard Pierce, Secretary-Treasurer; W. H. Diebel, Walter W. Ford, R. L. Clark.

The Board of Control has adopted the following plan for each member to follow: The physician is asked to mail to each debtor a statement the first of each month. The end of the third month the physician mails a form letter to the debtor. These form letters are furnished to each member. The first ten are complimentary and after that a charge of forty cents a hundred. No charge will be made for any bill that is paid as the result of this letter. Ten days after this letter is mailed if the bill is not paid in full or part or any arrangement is made to pay the bill then a blank which accompanies the letter is filled out and mailed to the Bureau. The Bureau will then mail from the headquarters another form letter, which will be more drastic in nature, to the debtor announcing that unless this bill is paid in ten days it will be rated and turned over to our legal department. A charge of 10 per cent. will be made by the Bureau for any collections made as the result of the letter mailed to the debtor. After ten days the account if not paid is turned over to the collector who makes a house to house call. For any bills collected in this way a fee of 25 per cent. will be charged. If the collector fails, in a reasonable length of time, to collect the bill then if the doctor so wishes and it seems advisable to do so, we will turn the account over to an attorney for garnishment. The Bureau will soon be able to commence our collection department so dig up your old accounts

and have them ready in a few days.
The result the officers wish to accomplish is to educate the doctor and the laity. The doctor to use better business methods in connection with his practice as he is often to blame for the patient not paying. The patient we wish to educate to pay the doctor with the same promptness as he pays his other accounts.

If each member of this Bureau will show his appreciation by giving this his prompt attention it will be a great help (to those who are trying to give to the profession something it greatly needs.)

It is not the object of this Bureau to make any money above expenses and if, in time, we find we can cut down on the commission or we can offer something more to the members that will aid them in their work, that will be our course to follow.

Over one hundred physicians have already joined the Bureau and if you have not you should do so at once. Perhaps you wish to know more about the Bureau. If such be the case you may call on any of the officers for any information you may wish. The interest taken in this venture has been greater than was anticipated.

Book Reviews

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (Mayo Clinic) for 1911. Octavo of 603 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$5.50 net.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (Mayo Clinic) for 1912. Octavo of 824 pages, 219 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$5.50 net.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (Mayo Clinic) for 1913. Octavo of 819 pages, 335 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.50 net.

In these volumes there are imparted the clinical teachings of the Mayo Clinic. Each volume presents the year's advancements in technic and diagnosis and is based on the experience of this distinguished medical center. They are composed of all the papers that have been written and read by all the members of the Mayo staff.

It would be difficult to find a collection of papers that contain such a fund of valuable information or which can equal these for the care, thoroughness and completeness of their preparation. Editorially they may be well held up as models.

Their possession is essential to anyone desiring to remain abreast of medical and surgical progress. They are a work that will be referred to frequently by every owner.

STUDENTS' MANUAL OF GYNECOLOGY. By John Osborn Polak, M.Sc., M.D., F.A.C.S., Professor of Obstetrics and Gynecology, Long Island College Hospital; Professor of Obstetrics in the Dartmouth Medical School; Gynecologist to the Jewish Hospital; Consulting Gynecologist to the Bush-

wick, Coney Island, Deaconess' and Williamsburg Hospitals, Brooklyn, and the Peoples Hospital, New York; Fellow American Gynecological Society, etc. 12 mo., 414 pages, illustrated with 100 engravings and 9 colored plates. Cloth, \$3.00 net. Lea & Febiger, Publisher, Philadelphia and New York, 1915.

There is a refreshing quality of conciseness about this work in which, while overlooking no item of essential and definite knowledge in the field of diseases peculiar to women, the author carefully avoids excursions into the realms of obstetrics and abdominal surgery and avoids the consideration of the theoretical aspects of his subject.

The facts that modern medical science has definitely established are plainly set forth. The pathology of the various disorders is adequately considered, and emphasis is laid on diagnosis and treatment. Indications for surgical intervention are fully presented, and a step by step description of the usual gynecologic operations enables the student readily to assimilate the procedures and technic, or the practitioner to refresh his memory quickly on any doubtful point.

The plan and arrangement is orderly to a marked degree. The opening chapters deal with the physiology of the various genital organs, with puberty, menstruation, ovulation and menopause, with discussion of hygienic considerations.

Chapters on general gynecology diagnosis serve as an introduction to the detailed consideration of the various gynecologic operations to which the book is largely devoted. Under each disease the pathology, the symptoms, diagnosis and treatment are presented fully and in sequence. Salient facts are emphasized. The full directions for treatment are a feature of marked value, and embody the best present-day practice.

While the author is evidently familiar with the literature of this department, he has based his work largely on personal observation, and has made accessible in small compass all the essential data required by the student and all that is demanded of a working manual for the general practitioner.

OBSTETRICAL NURSING. A Manual for Nurses and Students and Practitioners of Medicine. By Charles Sumner Bacon, Ph.B., M.D., Professor of Obstetrics, University of Illinois and the Chicago Polyclinic; Medical Director, Chicago Lying-In Hospital and Dispensary; Attending Obstetrician, University Chicago Polyclinic, Hernotin, German and Evangelical Deaconess Hospitals. 12 mo., 335 pages, illustrated with 123 engravings. Cloth, \$2.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915

Inclusiveness is one of the outstanding characteristics of Dr. Bacon's work. His great experience and unusual opportunities for observation in the handling of obstetrical cases have enabled him to present concisely and yet with most painstaking fullness all the information needed by the nurse to achieve the success in this important field that is conditioned on a full understanding and complete grasp of the minor niceties as well as the fundamentals.

Indeed, as stated in the preface, the needs of medical student and practitioner have been kept in

mind as well as those of the nurse. This is due as much to the author's belief that satisfactory results can only be obtained when the physician is fully posted on the approved minutiae of obstetrical nursing as to a realization that the exigencies of obstetrical practice may compel the nurse to act in place of the physician instead of as his assistant. Hence the section devoted to the handling of labor is more complete and detailed than might be expected in a work of this class.

The author nowhere loses sight of the primary purpose to develop efficiency in obstetrical nursing, but in his preliminary chapters presents a series of general observations of unique value to the nurse about to step from hospital surroundings to the changed conditions of private nursing.

The anatomical structure and functions of the pelvis, the genital and adjacent organs of woman, the development of the fetus and the relations of the child to its mother are clearly set forth. The physiological and pathological changes of pregnancy; the nursing technic before, during and after labor and of obstetrical operations; lactation; the care of the patients in both ordinary cases and in the rare forms of puerperal disturbance, are given detailed consideration. The chapters devoted to the early care of infants, infant feeding, and to diet, embody the best present day thought on these difficult subjects, presented by one peculiarly qualified to make it available to the nurse.

Nothing has been omitted which is essential to a full appreciation of the duties of the nurse in obstetrical cases, or to the full understanding of principles and procedure. Its clear straightforward diction and uninvolved presentation of the most approved modern methods constitute it an ideal text book for nurse or medical student and a not less useful handbook for the practitioner.

DISEASES OF THE BRONCHI, LUNGS AND PLEURA. By Frederick T. Lord, M.D., Visiting Physician, Massachusetts General Hospital and Channing Home for Consumptives; Instructor in Clinical Medicine. Harvard Medical School. Octavo, 605 pages. Illustrated with 93 engravings and 3 colored plates. Cloth, \$5.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The author's comprehensive grasp of the needs of the student and practitioner in a field which, perhaps more than any other, engages the attention of the average physician in general practice, and his ability to select from the mass of available material the essential facts and present them in usable form, are evident in every page of this work.

Dr. Lord has carefully studied the literature of the subjects considered, presenting the facts as established by leading modern observers and investigators, co-ordinating, elucidating and supplementing the knowledge thus assembled with the results of his personal observations and investigations in the wards and pathological laboratories of the Massachusetts General Hospital.

The result is a work which touches upon and makes clear the problems encountered in the treatment of diseases of the respiratory organs, and supplies the student with the basic knowledge in this broad field essential to further research, or the successful handling of these difficult and frequent

cases. Its usefulness to the practitioner can hardly be overestimated.

Extended consideration is given to conditions which simulate tuberculosis, and the essential points on which differential diagnosis may be based, are stated in detail. These observations are of surpassing value to the physician especially interested in the diagnosis of tuberculosis. The presence and significance of the tubercle bacilli in pleuritis and similar conditions is very fully treated.

The use of the bronchoscope receives more than passing mention. The importance of the early diagnosis of aspirated foreign bodies is emphasized, and the symptoms and signs are stated in detail. The amenability of abscess and gangrene of the lungs to surgical relief is stated, and, while the consideration as regards diagnosis is from a medical point of view, the indications for surgical intervention are comprehensively noted. Attention also is paid to the surgical aspects of empyema, actinomycosis and anchinococcus disease of the lungs. The importance of X-Ray examinations is not overlooked, and radioscopic findings are described.

The chapters dealing with the recognition of different types of pneumococci as a cause of lobar pneumonia; the results of animal experiments with the pneumococcus; metabolism in pneumonia; immunity; preventive inoculation; special methods of treatment, particularly by immune sera; the causes of hemoptysis and its recognition as a manifestation of tuberculosis, present all that modern science has accomplished in these fields in a manner that establishes its usefulness.

A valuable section deals with artificial pneumothorax in the treatment of pulmonary conditions, especially tuberculosis, and discusses conditions in which experimental puncture is dangerous. The etiology and pathology of each disease is stated fully and most clearly. Symptoms are presented in detail as are the diagnostic data, including the bacteriology and microscopic. Prophylactic measures, whenever possible, are suggested, and minutely complete directions for treatment close the discussion of each type of disease.

INFANT FEEDING, ITS PRINCIPLES AND PRACTICE. By F. L. Wachenheim, M.D., Attending Physician Sydenham Hospital and Mount Sinai Dispensary, New York City, 12 mo., 340 pages. Cloth \$2.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The author has accomplished the monumental task of carefully considering the enormously extensive literature of this subject and presenting in readily available form the ultimate conclusions of the world's leading authorities and the most successful present-day practice.

So great is the volume of the literature referred to, and so widely do the authorities differ, that in the resultant confusion the practitioner who seeks light in this most difficult and important field is sure to welcome this volume in which the author gives critical consideration to the various systems and formulas, rejecting those which fail in some important particular.

It is not, however, a review of the bibliography of Pediatrics, although Dr. Wachenheim is peculiarly

qualified for the task as well as for the broad consideration of the problems of infant feeding which his work affords. It is a very clear statement of the best modern thought and progressive practice, in which each conclusion is supported by indisputable evidence, and in a form which makes it immediately useful.

In the preliminary chapters a clear presentation of facts regarding infant digestion and metabolism opens the way to easy grasp of the detailed information. A point of interest is the author's demonstration of the extent to which the capacity of the infant's stomach is underestimated. Enlightening data is presented regarding protein, carbo-hydrate, salt and particularly fat metabolism. After reviewing fully the problems of breast feeding Dr. Wachenheim concludes that even in cases of serious digestive derangement, if the supply is adequate, the only safe procedure is to keep the child at the breast.

The bacteriology of milk; milk infection; the constituent elements of cow's milk and the essential difference between it and human milk; milk regulation and the feeding of whole milk, are treated at length. While the basis of the discussion of milk modification is highly scientific, the reasoning is so logical and the conclusions so clearly stated that the practitioner cannot but find this section useful when called upon to draft a series of formulae, while the specialist will find herein much interesting new material based on the author's study and observation.

He rejects top milk method as inaccurate, as well as characterized by inherent defects. He also makes out a strong case against the percentage method, and recommends the Jacobi system of simple dilutions. The formulas presented are readily adaptable to the individual requirements of the case in hand. The cause, symptomatology, diagnosis and treatment of digestive and metabolic disorders are considered at length. A section on the feeding of older infants up to four years brings the work to a logical conclusion.

MODERN MEDICINE. Its Theory and Practice. In Original Contributions by American and Foreign Authors, Edited by Sir William Osler, Bart., F.R.S., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal; and Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia; Fellow of the Royal College of Physicians, London; formerly Associate Professor of Medicine in Johns Hopkins University, Baltimore. In five octavo volumes of about 1,000 pages each. Volume IV. Diseases of the Circulatory System; Diseases of the Blood; Diseases of the Lymphatic System; Diseases of the Ductless Glands; Vasomotor and Trophic Disorders. *Just ready.* Price per volume, cloth, \$5.00 net; half morocco, \$7.00 net. Lea & Febiger, Publishers, Philadelphia and New York.

The publication of Volume IV of Modern Medicine marks another important step towards the completion of this monumental work. Its appearance, while the impression of extraordinary usefulness created by its immediate predecessors is fresh in the minds of its fortunate readers, naturally

creates a receptive atmosphere which is amply justified by the scope of the volume; by the practical and exhaustive consideration afforded the various subjects and the editorial acumen evidenced in the assignment of space and the selection of authority best qualified to treat each of the subjects taken up. The distinguished editor has contributed more largely to this than to the preceding volumes.

The volume under consideration conforms to the high standard already established for this series in intrinsic value and in the perfection of typographical and illustrative details. It deals with the Disease of the Circulatory System, of the Blood, of the Lymphatic system, of the Ductless Glands, and with Vasomotor and Trophic disorders. In each of the five sections the reader is presented, fresh from the pen of the author, with a clear exposition of the best present-day thought and practice.

While the very wealth of valuable material comprised in this volume precludes any extended review of the individual contributions, among those which are worthy of special mention are the chapters on Arterial and Valvular Diseases by Sir William Osler; on Insufficiency and Dilatation by Alexander G. Gibson, M.D., F.R.C.P.; on Diseases of the Lymphatic Vessels and of the Lymphatic Glands by Aldred Scott Warthin, M.D.; on Pernicious and Secondary Anemia, Chlorosis and Leukemia by Richard C. Cabot, M.D.; on Diseases of the Adrenal Glands, the Pituitary Body and of the Thyroid Glands by George Dock, M.D.; on Hodgkin's Disease by Warfield T. Longscope, M.D., and on Vasomotor and Trophic Disorders by the Editor.

DIFFERENTIAL DIAGNOSIS. Presented through an analysis of 317 cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 709 pages 254 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.50; Half Morocco \$7.00

The first volume of this work dealt with the symptom of pain and eleven other common symptoms. In the present volume the same plan has been carried further. Nineteen other symptoms have been selected, analyzed and illustrated.

This is one of the most profitable and instructive books that we have ever read. It is a most realistic clinic of 317 cases, discussed from every practical viewpoint without the omission of a single possible detail that might tend to becloud a diagnosis. The case reports are not the features of the work, but are used to illustrate the author's text and diagnostic points.

It is a most important composition meriting universal approval and commendation. Every progressive physician should be eager to possess it.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, A.M., M.D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia. Fifth edition, thoroughly revised and enlarged. Octavo of 856 pages with 272 illustrations, 27 of them in colors. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$4.50 net.

This volume, thoroughly revised, is the fifth edition of a work that is recognized as a standard reference

and text book. The new chapters added are: Vaccine Therapy's Lactic Bacteriotherapy in Atrophic Rhinitis; Salvarsan in the Treatment of Syphilis of the Upper Respiratory Tract; Sphenopalatine Ganglia Neuralgia; Negative Air Pressure in Sinus Disease; Chronic Hyperplastic Ethmoiditis; Congenital Insufficiency of the Palate; Lactic Bacteriotherapy in Pharyngeal Affections. The chapter on the tonsils has been thoroughly revised and the surgical technic brought up to date. There are a number of new illustrations. In subject matter, the style of discussion, clearness of description, illustrations and fullness of treatment there is nothing left out that a reader might desire. The work is thus a splendid one for practitioner and specialist. Altogether it is a most useful and practical text book. We do not reserve any hesitation in recommending it.

DIAGNOSTIC AND THERAPEUTIC TECHNIC. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, M.D., Clinical Professor of Surgery, New York Polytechnic. Second edition, thoroughly revised. Octavo of 834 pages, with 860 illustrations. Philadelphia and London: 1915. Cloth, \$5.00 net; Half Morocco \$6.50 net.

The author and publishers present the profession with a second revised edition of a most useful and practical volume.

It is a work that describes general and therapeutic diagnostic methods and gives a most complete elucidation of those measures employed in diagnosis and treatment of diseases affecting special regions and organs. Nothing is left to the reader's imagination. So many of our text books treat exhaustively the larger problems of medicine and surgery and omit these so-called minor procedures which a physician may be called upon at any time to perform. If not fully familiar with the methods he is forced to search through many volumes in order to obtain the steps in technic. This volume supplies him with all the needed details under one cover, in a clear detail with nothing left for the reader's imagination. It is a work that should be in every physician's library.

To further illustrate its value we publish the following synopsis of Chapter II, which is but a random selection of the twenty-two chapters covered in a like thorough manner: Local Anesthesia; advantages and disadvantages, methods of producing, drugs employed, preparation of the patient, conduction of an operation, local anesthesia by cold, surface application, infiltration, endo and perineural infiltration, practical application, operations on inflamed tissues, Bier's venous anesthesia.

We know of no other work so complete on the subject nor so essential an aid to one in active practice. As a working reference for every doctor we commend it because we believe there is no better.

A PRACTICAL TEXT-BOOK OF INFECTION, IMMUNITY AND SPECIFIC THERAPY with special references to immunologic technic. By John A. Kolmer, M.D., Dr. P. H., Instructor of Experimental Pathology, University of Pennsylvania with an introduction by Allen J. Smith, M.D., Professor of Pathology, University of Pennsylvania. Octavo of 899 pages with 143 original illustration, 43 in colors. Phila-

delphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net, Half Morocco, \$7.50 net.

This timely and desirable compilation of facts and theories pertaining to Infection, Immunity and Specific Therapy may be best described to our reader by quoting direct from the author's preface:

"For the past twenty years the science of immunity has been one of the most progressive and most active branches in the department of medicine. An enormous literature has accumulated; many new terms have been coined, and numerous theories have been adduced; indeed, the subject has acquired an aspect of complexity that is confusing to those not especially interested or engaged in this work.

The purpose of this book is a threefold one, namely:

1. To give to practitioners and students of medicine a connected and concise account of our present knowledge regarding the manner in which the body may become infected, and the method, in turn, by which the organism services itself against infection, or strives to overcome the infection of it should occur, and also to present a practical application of this knowledge to the diagnosis, prevention and treatment of disease.

2. To give to physicians engaged in laboratory work and special workers in this field a book to serve as a guide to the various immunologic methods.

3. To outline a laboratory course in experimental infection and immunity for students of medicine and those especially interested in these branches.

1. The subject of infection is intimately connected with that of immunity, and this is especially emphasized in those diseases for which a specific therapy exists, for a knowledge of the nature of the infection is of paramount importance in controlling the dosage and indicating the method of administration of a specific therapeutic agent. By describing principles and technic with considerable detail, a special effort has been made to render Part IV of this book of particular value to practitioners of medicine.

The day is past when the physician and surgeon can relegate the things of immunity entirely to the laboratory. Diagnostic methods and reactions and the field of specific therapy—vaccin, serum, and chemo—are subjects to such practical importance that it is obvious that the physician and the student of medicine can no longer be merely mildly interested onlookers. The physician who injects salvarsan, a serum, or a vaccine, or who uses a diagnostic reaction, must be prepared to explain to his patient the nature of the therapy he employs and the significance of the reaction. This he can do only by equipping himself with the knowledge of the fundamental factors of immunity, or he will be forced into the position of a passive transmitter of ideas entirely beyond his own knowledge.

2. An effort has been made to include data of both practical and theoretic importance, and in some instances tests are described that are more of theoretic than of practical import, especially in research work.

It is obviously impossible, in a single volume, to include the very large number of tests and modifications that have been advocated from time to time, and, as a matter of course, most attention has been given those methods that have been shown to be of

practical value or that give promise of becoming so. So far as possible original methods are given, these being, in the larger proportion, more or less important modifications devised as the result of my own experience in hospital and teaching laboratories.

The technic of the various tests and reactions is described in great detail, thus tending the better to secure accuracy, simplicity and definiteness and to serve as an opening wedge to those about to enter this special field.

3. The value of the experimental method in the teaching of certain branches of medicine is now well recognized. In no department, however, is this method of greater value than in the study of infection and immunity. A working knowledge of these subjects should be well versed in at least their primary principles and practical applications in the prophylaxis, diagnosis and treatment of disease.

The laboratory course given in Part V is based upon the course given by me in the Laboratory of Experimental Pathology at the University of Pennsylvania, and in the laboratories of the Philadelphia Polyclinic and College for Graduates in Medicine. In including them in this volume I am carrying out my original plan, for in many of the experiments the technic of a given test is described, making a separate book devoted to this part of the subject unnecessary. Future experience may, however, show the necessity of having this portion of the book form a separate laboratory manual. I shall appreciate the opinions of educators who may have occasion to consult the course herein outlined.

Since the larger portion of our knowledge of infection and immunity has been gained from studies upon the lower animals, it is not strange that these were early and directly benefitted by a practical application of this knowledge to the prophylaxis, diagnosis and treatment of many of the diseases to which these animals are subject. I have, therefore, included in this volume an account of those immunologic diagnostic reactions and applications of specific therapy that have a direct bearing upon veterinary medicine.

No attempt has been made to cover all literature references on the subject. An effort has been made to state well-established facts concisely, and, in the case of the more recent subjects, to give the principal references to the literature. I have drawn largely from German, French, and English sources, and have endeavored, wherever possible, to give proper and due credit to each author. In order to keep the work up to the times, I would ask the authors of reprints on immunologic subjects to send me copies."

The author's plan is admirably carried out. The work is destined to become well-nigh indispensable to physicians, health-officers, sanitariums and laboratory worker.

SCOPOLAMINE-MORPHINE ANESTHESIA, by Bertha Van Hoosen, M.A., M.D. Chicago and A Psychological Study of "Twilight Sleep" Made by the Giessen Method by Elizabeth Ross Shaw, Chicago. Cloth, 216 pages. The House of Manz, Publishers, Chicago, Ill.

The forepart of this volume is a monograph setting forth, but in part, the author's personal experience with the use of Scopolamine-Morphine in some 5,000 surgical cases and 100 cases

of obstetrics. The cases extend over a period of ten years. Statistical data is well compiled and certain features are illustrated by case reports. The method of administration is completely described. Dispersed throughout the text will be found the author's personal views on the subject. It is an interesting effort.

Still, on the whole, the reviewer lays the book down unable to thrust aside the idea that it is but the viewpoint of one individual, stimulated by personal enthusiasm and we remain persuaded to look upon the value of this anesthetic adjuvant as of questionable value. Dr. Van Hoosen's surgical results are commendable but we hesitate to ascribe them as due, to a large extent, to the use of Scopolamine-Morphine.

As to the 100 cases of so-called "Twilight Sleep," their report is valuable. Further than that we are not disposed to comment either pro or con. The physiological study of the one case is complete and instructive, but one finishes the report with a feeling that "Twilight Sleep" is a misnomer and the term should be abolished from professional nomenclature.

A rather complete bibliography is given.

The volume is one that may be read with interest and profit and enables the reader to pass a better opinion upon the desirability or not of utilizing this recently resurrected drug. We rather eagerly look forward to a new edition containing a broader viewpoint and final conclusion. The book is assured a welcome by many interested readers.

Miscellany

Peebles Epilepsy Cure.—The Dr. Peebles Institute of Health, Ltd., Battle Creek, Mich., advertises an "epilepsy cure." The "treatment" was examined in the A.M.A. Chemical Laboratory. It consisted of two bottles, "No. 1" and "No. 2." "No. 1" was a liquid containing extractive matter, had an odor resembling celery and valerian and contained 11.40 per cent. absolute alcohol. "No. 2" was a liquid, having a valerian-like odor and containing as essential constituents ammonium bromide and potassium bromide, equivalent to 16.8 gr. potassium bromide per fluidram, the recommended dose. Thus, the treatment consists essentially of bromides and is, in no sense, a cure and not free from danger (*Jour. A.M.A.*, Jan. 30, 1915, p. 455).

G. G. Phenoleum Disinfectant.—This is a disinfecting solution sold by the G. G. Phenoleum Co., New York. It was found ineligible for New and Nonofficial Remedies by the Council on Pharmacy and Chemistry because unwarranted claims were made for it and because the disinfectant power was not stated on the label, as required by the Council (*Jour. A.M.A.*, Jan. 30, 1915, p. 456).

Phytin and Fortossan.—Phytin, sold by A. Klipstein & Co., New York, is an organic phosphorus compound, the acid calcium-magnesium salt of phytinic acid. The Council on Pharmacy and Chemistry rejected Phytin because unwarranted and exaggerated therapeutic claims were made for this

product, based on the entirely undemonstrated assumption that phosphorus is assimilated only from organic combination, that a long list of diseases are due to deranged phosphorus metabolism and that such diseases are benefitted or cured by Phytin. The Council also refused recognition to Fortossan, a preparation of Phytin and sugar of milk (*Jour. A.M.A.*, Jan. 30, 1915, p. 456).

Intestinal Antiseptic W-A.—The Abbott Alkaloidal Co., advertises intestinal antiseptic W-A as "A scientifically blended and physiologically adjusted mixture, of the pure sulphocarbolates of calcium, sodium and zinc, grs. 5, with bismuth subsalicylate, gr. ¼ and aromatics." The Council on Pharmacy and Chemistry refused recognition to this proprietary because the formula does not indicate the proportionate amounts of the several sulphocarbolates, because the name is therapeutically suggestive and an invitation for the use of the preparation by the public and because exaggerated therapeutic claims are made for it. The claims which are made are most extreme; they contrast sharply with the low esteem in which the phenolsulphonates (sulphocarbolates) are generally held. It does not appear that the claims have been substantiated by proper evidence (*Jour. A.M.A.*, Dec. 19, 1914, p. 2247).

Theobromine versus Caffeine.—Lester Taylor finds that caffeine gives a moderate relief from the cardiac symptoms in myocardial insufficiency, but also causes the constant appearance of distressing nervous and gastric symptoms. He further finds that the clinical diuretic action of caffeine may be better performed by large doses of theobromin sodium salicylate, N. N. R. without the unpleasant side-effects (*Arch. Int. Med.*, Dec., 1914, p. 769).

Prunoids.—Prunoids (Sultan Drug Co.) are tablets said to be "Made of Phenolphthalein (one and one-half grains in each), Cascara Sagrada, De-emetized Ipecac and Prunes." The A.M.A. Chemical Laboratory reported that Prunoids appeared to be essentially a phenolphthalein tablet. The Council on Pharmacy and Chemistry held Prunoids in conflict with its rules because the statement of composition was incomplete and therefore meaningless, because unwarranted therapeutic claims are made for them, because the name "Prunoids" does not indicate the chief constituent but gives the false impression that they depend on prunes for their effect and because it is irrational to prescribe a well known drug under a misleading name (*Jour. A.M.A.*, Jan. 2, 1915, p. 71).

Radio-Rem.—The Radio-Rem outfit is advertised by Schieffelin & Co. It is said to produce water charged with radium emanation by inserting rods stated to be coated with radium sulphate in water. Not only is the internal use of radium emanation without proved value, but the amount of emanation said to be produced by the apparatus is far below the amounts generally used by those who believe in its efficacy. It is claimed that this outfit supplies a substitute for natural mineral water; but there is no proof that the value of mineral waters depend on contained radium emanation (*Jour. A.M.A.*, Jan. 30, 1915, p. 456).

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Original Articles

SOME PHASES OF SURGERY OF THE SIGMOID.*

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It is my intention to briefly present for your consideration a few pathologic conditions of the sigmoid portion of the colon, with some suggestions for surgical treatment born from experience with a number of cases occurring in my service in the last two years.

These diseased conditions embrace ptosis and prolapse of the sigmoid, adhesions (post-puerperal and post-operative), hypertrophy, diverticulum and malignancy.

SIGMOIDAL PTOSIS AND PROLAPSE.

Studies with the sigmoidoscope and the X-Ray have shown that true prolapse of the sigmoid and invagination of the sigmoid into the rectum is not as rare a condition as one might suppose. The symptoms are those of constipation with intense desire to defecate following administration of cathartics, and, though there is the feeling of a full rectum, the passage of stool is accomplished with difficulty. Digital examination discloses the rectum filled with prolapsed bowel. Internal inspection shows a more or less redundant and invaginated sigmoid, which, however, reduces when the patient is put in the knee-shoulder or inverted position. The X-Ray findings are characteristically shown in some of the plates which will follow. It has never seemed proper or rational to immovably anchor a movable organ, but rather to imitate, so far as possible, nature's methods of suspension. Therefore, the operation of sigmoidopexy has never been, in the author's mind, a rational procedure. An operation which would use the natural support of the sigmoid colon, the meso-

sigmoid, offers a rational basis for its employment.

The author first reported the operation of meso-sigmoidopexy before the Chicago meeting of the American Proctologic Society and has employed it since with perfect satisfaction for the relief of ptosis, prolapse and invagination of the sigmoid colon. The mesosigmoid of the prolapsed portion of the sigmoid is brought up and sutured to the mesentery of the upper portion of the sigmoid loop near its root; the opposing surfaces of mesentery are brought together by three or four rows of catgut sutures, which are placed parallel with the blood vessels so as to partially obliterate the sigmoidal mesenteric fossa. This draws the prolapsed sigmoid out of the lower pelvis, securely fastens it and prevents its return. Most important, however, is the fact that no operative procedure is done on the bowel itself, and therefore no adventitious adhesions are created.

ADHESIONS.

The adhesions of the sigmoid colon to be discussed are those arising from two sources—(a) postpuerperal adhesions, (b) postoperative adhesions. A study of one's cases will show a number of cases of obstruction to normal defecation due to adhesions, which have distorted, obstructed or otherwise so changed the normal position and patency of the sigmoid colon as to call for surgical procedures for their relief. The author's attention has been called to a number of women who gave a history of a disturbed puerperium and who came under his observation suffering from chronic obstipation accompanied by pain, particularly in the left lower abdominal quadrant, and showing marked tenderness on bimanual palpation in the region of the uterus and the left broad ligament. In a few instances the tenderness was as marked in the right side as in the left. The post-puerperal histories of these women all disclosed a more or less tempestuous period following delivery or, in two instances, miscarriage or abortion. Inflation of the colon with air disclosed very pain-

*Read before Section on Surgery, 49th Annual Meeting M.S.M.S., Lansing, Sept. 10-11, 1914.

ful areas in the lower left side of the abdominal cavity, and radiographs bear out the location of the pathology in this region. The author would respectfully call the attention of the members of this society to the presence of this definite pathologic condition. One may also find it after inflammatory conditions of the uterus and adnexa, which have required more or less prolonged confinement in bed, with the attendant proclivity on the part of engorged and inflamed peritoneal surfaces to adhere to one another.

Adhesions of the sigmoid flexure to the abdominal wall or to other organs following laparotomy is not uncommon and cause similar symptoms. An improperly protected abdominal incision, or raw tubal or ovarian stumps are prone to adhere to a movable organ like the sigmoid, which is thrown against these surfaces in peristalsis.

The surgical treatment for adhesions of the sigmoid is, of course, governed by the indications of the individual case. The general principles to be followed are: first, the severing of adhesions and the covering of raw surfaces by epiploic, mesenteric or omental grafts; second, the shortening of the mesentery of prolapsed and adherent sigmoid by means of mesenteric plication or meso-sigmoidopexy described above; third, the short-circuiting of a sigmoid which is so densely adherent that recurrence of the adhesions would be sure to follow if the adhesions were broken up; fourth, the excision of a sigmoid whose presence, even though put out of commission by short-circuiting, would prove a menace to the integrity of the neighboring abdominal contents.

All things being equal, in short-circuiting, the author has found ileo-sigmoidostomy more satisfactory than ceco-sigmoidostomy. The ileo-cecal valve has not always proved as good a surgical friend after ceco-sigmoidostomy as before. A long lateral anastomosis between ileum and lower sigmoid is far more safe and satisfactory in the general run of cases.

HYPERTROPHY OF THE SIGMOID COLON.

In the author's series of cases of hypertrophy, which includes several of congenital Hirschsprung's disease as well as a few of the acquired variety, the predominant symptom was prolonged fecal retention, one case going as long as three months without a movement and several seven or eight days. These cases of hypertrophy or redundant sigmoid colon require excision more often than simple exclusion. The

walls of the hypertrophied sigmoid contain such a large proportion of stiff, unyielding fibrous tissue that, even though thrown out of commission by a short-circuiting operation, their chronic atonic condition renders the expulsion of gas extremely difficult and the patients all suffer from a painful condition of abdominal distension.

The excision of a hypertrophied sigmoid and a liberal lateral anastomosis will give good satisfaction and complete relief of symptoms. A study of the accompanying lantern slides of some of the author's cases will be of interest in this connection.

DIVERTICULUM OF THE SIGMOID COLON.

This is a rather uncommon condition but one for which it is well to be on the lookout. An acute inflammation of a sigmoidal diverticulum will give the picture of acute appendicitis with the position of rigidity and tenderness on the left side instead of the right. Likewise, a chronic diverticulitis will simulate a chronic appendicitis. Occasionally a fecal impaction or concretion will occur in a diverticulum and give rise to a condition of discomfort which it is not easy to diagnose. The radiograph will be of assistance in this class of cases and adhesions of diverticula will be disclosed as well as the presence of diverticula which otherwise would be unsuspected. The surgical indication is the removal of the diverticulum, resection of the affected portion of the sigmoid, or short-circuiting.

MALIGNANT GROWTHS OF THE SIGMOID COLON.

Next to the rectum the most frequent location for malignant growths of the colon is in the sigmoid. Naturally the presence of a malignant growth in the sigmoid will cause few, if any, symptoms until fairly well advanced. Fortunately an occasional early carcinoma has been diagnosed in the course of sigmoidoscopy. Often, however, the growth is situated beyond the limits of sigmoidoscopic examination. In these cases a history of some interference with defecation, a sense of obstruction or oppression in the region of the sigmoid, alternating diarrhea and constipation, bloody stools, the cause of which is shown by the proctoscope to be above the rectum, and finally the presence of a tumor in the sigmoidal region, are all extremely suggestive diagnostic evidence of the existence of a sigmoidal carcinoma. The age of the patient and the absence of interference with general health or loss of weight are, of course, of no moment to the proctologist in the diagnosis of carcinoma.

The fluoroscope and radiograph are of great assistance in the final diagnosis of carcinoma of the sigmoid. The picture will show a narrowed lumen with evidence of increased density of the surrounding tissues, which, with the symptoms elicited as above, will make a diagnosis of carcinoma conclusive.

The operative measures are excision with immediate anastomosis, excision by the three-step method, or, if the carcinoma is too far advanced, permanent median colostomy. In the author's experience he has seen no reason for the employment of the three-step method. The technic of excision with lateral or end-to-end anastomosis is so well perfected that he has yet to meet with a failure with this operation. The three-step method, even though immediately relieving the obstructive symptoms of the patient, prolongs his invalidism and so weakens his resisting power that in a case of carcinoma it is very seldom justified. In irremovable or inoperable carcinoma of the sigmoid, colon or rectum, it is the author's practice to always make the colostomy in the median line. This is done for the following reasons:

First, the median incision is the best for exploratory purposes. Second, one has the choice of any part of the colon in

the making of the colostomy. Third, one gets just as good adhesion and union as in the side, and with no more liability to hernia. Fourth, the patient is better able to cleanse and dress the colostomy in the median line. Fifth, it takes the colostomy opening away from the neighborhood of the iliac crests, and allows of the better fitting of retention apparatus and colostomy shields. Sixth, control of a median colostomy is just as satisfactory as the lateral. Seventh, the fact that the old text-books gave the location of the sigmoid always in the left iliac fossa while, as a matter of fact, it is many times central in location, is no reason why one should stay in the rut and keep putting colostomies where they are most uncomfortable for the patient and most difficult for the instrument makers to control with retention devices.

The author has found no difficulty in securing colostomy control by using a small rubber catheter through the mesenteric opening beneath the spur, encircling the upper limb of the colostomy with it and drawing it just snug enough to appose the mucous surfaces. The catheter is held in this position by a seraphine snap, and is released by the patient when he wishes to defecate or expel flatus.

Kresge Medical Building.

Symposium: Present Status of Syphilis

SYPHILIS—ITS MODERN STATUS.*

CHARLES W. HITCHCOCK, M.D.

Chairman Medical Section.

DETROIT, MICHIGAN.

Introductory.—No apology is necessary for the subject of this evening's discussion. Often, too often, perhaps, we are led far afield in our search for profitable topics and frequently we talk long and learnedly of the rare, the exceptional, the unusual. It is easy to overlook the commonplace, to pass by that which faces us daily, to acquire that contempt which long since, familiarity was said to breed; but it is the problems of daily life and practice which are really the important ones—it is these which we should most wish to solve well.

Syphilis, like the poor is always with us. It is begotten in the bar-room and brothel, is no stranger to the highest society, and is bred in the church itself. Parson and priest may be its victims. We find it frequently where its

presence would be least suspected and it behooves every medical man to be constantly alert lest pride of birth or position, pious face or conduct, reputation, aspect or anything else lead him into the easy belief that lues could not be his patient's portion, though clinical evidence point strongly that way. It is too common to be unimportant but especially in these rapidly changing times, now and then, do we need to stop and take inventory, see that our armament is up to date, that we are equipped with guns of proper caliber and ammunition of deadliest effect if we are to win in the fight against disease.

I shall not delve into the archives of history in a vain effort to determine the age of syphilis; but I suspect that the sages of scripture knew of its ravages and that to its origin a rare antiquity elings. I may remind you, however, that it is not yet ten years since the zoologist, Schaudinn discovered its offending cause as the *spirochaete pallida* and that it is still less since Ehrlich's laboratory gave to the world his perfected sal-

*A Symposium Feb. 8, 1915, Wayne County Medical Society.

varsan—two occurrences which surely have had much to do with a changed professional attitude toward the disease. Knowing its cause, learning all the time more of its habitat and mode of life, we can have a definiteness of aim, a clearness of purpose in treatment which it was not our privilege to know a decade ago. The use of our remedy we are coming to know better and better. How large a projectile we shall hurl at this enemy and with what sort of a weapon. When we shall depend most on older methods of warfare and when upon those of more recent acquisition.

To all of the special branches of medicine syphilis brings its special problems and of how very numerous these are we are coming to know more and more. The surgeon cannot ignore it; the internist knows it well; the oculist finds the spirochaete busy in his field; the aurist sees its work; the laryngologist finds it busy in the field with which he has most to deal; the abdominal surgeon knows too well the ruin it has wrought; the proctologist seeks to repair its damages; and the neurologist knows both its active work in breaking down nerve tissues and the horrible work it has accomplished before its presence was ever suspected. So multifarious are its manifestations that it becomes a national and state problem. The sanitarian would segregate the dangerous and the statistician is finding syphilis and its entailments as more and more a factor in his figures. Its causal relation to the insanities is of tremendous importance and how extensive are its complicating relations to insanity and feeble-mindedness, a recent study by a State Eugenic's Commission, ably and interestingly tells, and as a result of this study, additional safeguards are to be asked in the way of legislation at the hands of the present legislature.

That syphilis and the venereal diseases should be reported there can be no doubt. This is of vital importance and too little insisted on. That the curability of syphilis should not only be known but be more rigidly insisted on is hardly to be discussed and surely marriage must be competently guarded if we are to prevent the marriage of the unfit, if we are to mitigate the overcrowding of our asylums, if we are to lessen the appalling number of the feeble-minded, for that syphilis has a fearful entailment in defective and unstable nervous organisms has long been well known. Thus directly or indirectly syphilis militates against the welfare of the state and the state must make known its dangers and

protect against them. This it does to some extent in eliminating, by legislative enactment, the unwholesome roller towel and insanitary, yes horribly dangerous public drinking cup. When the state has gone further and insisted upon a competent physical examination of both parties as a prerequisite to a marriage license, it will have taken a long and desired step in the right direction. No syphilitic who cannot be pronounced cured, by a competent authority, should be allowed to marry. This is but a minor penalty which he should pay for his license and for the good of the greater number. Such a policy properly safe-guarded and rigidly pursued ought in time to better the statistics of the commonwealth. Plain and simple and straightforward information should be placed by the state within the reach of the people, as to the frequency, nature and great danger of syphilis, how it is most commonly acquired and how it may be communicated. The danger of kissing and kissing games should be clearly explained. It is not long since in Philadelphia that no less than eight cases of syphilis in girls were traced to one man, who had been active in a kissing game on a social occasion. Such information should not be minced but so plainly set forth that he who runs may read. Thus something may be accomplished by the state in disseminating more and simple information about the very real dangers of syphilis. In every possible way both state and federal authorities should make plain the danger and combat this too common evil.

Especially should venereal diseases be reported and it should be made apparent, both to the laity and the profession, that in the end this hurts no one—that it may do great good and we should cease to cover these things up as things to be ignored and not talked about. Rather should the profession help in every way to scatter broad-cast plain and simple information as to the frightful prevalence of venereal diseases and their more common dangers. Forewarned is forearmed and they do claim many an innocent victim.

These are a few of the ways in which the state and the profession may help to lessen the ravages of this foe of the many, and these remarks will serve as introductory to the subject of the evening.

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SYPHILIS—ITS MODERN STATUS FROM THE STANDPOINT OF THE INTERNIST.

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I would visualize the modern status of syphilis as a drama. The first act of the drama is staged in a little laboratory in Algiers in the year 1880, where Laveran, the French army surgeon, was studying the malarial organism, and where he made his epochal discovery of the protozoal origin of this disease. The next act, with several scenes, is staged some twenty odd years later, in the laboratories in Germany, where Schaudinn, Hoffman, Wassermann, Ehrlich, *et id genus omne*, were working along serological and etiologic lines in the study of disease. Of the results achieved by Wassermann and his associates it is hardly necessary to speak. The reaction which bears the name of this one observer, but is the cumulative results of work done by many laboratory men, is accepted as more or less final, and as being of the utmost value in the settlement of difficult diagnostic questions.

Schaudinn and Hoffman by their discovery of the spirochete, or *treponeme pallida*, as the causative factor in syphilis, and likewise by their appreciation of the close biologic relationship existing between the trypanosomes and the spirochetes, have done more, probably, in clearing up disputed and much clouded questions than they are ordinarily credited with. Of the work of Ehrlich, which has been so much in the public eye during the last six years, little need be said. It may not be known, however, that Ehrlich's discovery of the value of the arsenical compounds in the treatment of syphilis had its incentive and its stimulus through the appreciation of the work done by Schaudinn and Hoffman in directing the attention of observers to the already mentioned close biologic relationship between the treponemes or spirochetes of syphilis and the various strains of trypanosomes. Ehrlich and his co-workers, aiming at a cure for the trypanosomes (the best known of these being the "trypanosome gambiense," the cause of the terribly fatal "African sleeping sickness") found that metallic arsenic would destroy these organisms but was terribly fatal likewise to the host entertaining them. In other words, and to use the modern terminology, the inorganic arsenic was not only *parasitotropic*, but *organotropic* and was consequently too toxic to be available in a curative sense. Infinite patience,

and inconceivable work, led finally to the discovery that organic arsenic, particularly the trivalent forms, possessed the much to be desired qualities for which they were searching, namely, a maximum of parasitotropic efficiency, with a minimum of organotropic toxicity. The amount of work and the extent of the patience demanded in the pursuit of this end is best illustrated by reference to the popular name now given to the compound so commonly used today in the cure of syphilis, namely "606," this number representing the number of experiments which were conducted before the final end was achieved.

A digression for a moment may be made to refer to the terminology which has been used in reference to the toxicity or non-toxicity of the organic arsenical compounds. According to this terminology, which is coming into common use, all drugs which have a specificity for a certain organism are termed *etiologic drugs*; as examples of this, quinine in malaria, mercury in syphilis, salicylic acid in rheumatism are the best known.

When a drug is highly potent in its effect upon the organism without being detrimental to the host, it is called *parasitotropic*, while when the converse is true it is termed *organotropic*. The culmination of Ehrlich's work was thus the production of an organic arsenical compound, which was highly parasitotropic to all the trypanosomes and spirochetes, and possessed the minimum organotropic toxicity. With the trypanosomes we have nothing further to do. So far as syphilis is concerned, they fulfilled their work when they demonstrated their relationship in a biologic and therapeutic way with the spirochetes.

The third act of the drama was then ready for the staging. It is still being played. The world is the stage, the medical profession the actors, the great public the audience. The thorough work, the complete preparation, the artistic presentation by the preceding actors, have conduced to make for complete artistic and scientific efficiency in the production of this third act. Part of it is played. For the past six years demonstrations have been repeatedly made showing the value, in a clinical way, of the arsenical compounds in syphilis, and their superiority in certain types of the disease to the old stand-by—mercury. But the drama is not ended. Other acts will be seen; other scenes played. Already workers have discovered new arsenical compounds, as in neo-salvarsan, and new antimonial compounds, the value of which is yet speculative.

Thus far the laboratory workers have had decidedly the better of the presentation. The clinical workers are playing uniformly secondary parts. From this time on it is probable that a more even distribution of the leading roles will be allotted. Clinical medicine is again coming into its own, and, realizing its dependence upon laboratory research work, will advance by leaps and bounds.

This serves as an introduction as to the point of view of the internist. A frank admission of the inefficacy of the old fashioned remedies, mercury and iodine, in the treatment of syphilis, and a full appreciation of the wonderful scientific demonstration of arsenic as a more or less complete cure in this disease, leads up logically to the modern conception from the internist's point of view, in the therapeutics to be selected.

Given a well defined bacteriologic or protozoan factor causing a disease, and a remedy which has been proven parasitotropic to this organism, the attitude of the physician must be logically that which aims at the destruction of the organism in the shortest possible time, with due consideration of the organotropic dangers inherent thereto. In other words, since the profession generally has accepted the views which have been enunciated viz. that arsenic is invaluable in the cure of the disease under discussion, it behooves us as physicians to see that our patients are saturated with this drug and immunized against the organism in the shortest possible space of time. Hence the necessity for the often repeated admonition to secure for these patients initial heavy doses of arsenic. The argument in favor of such a course is more potent when one realizes that laboratory and clinical workers have demonstrated beyond the possibility of a doubt, that small doses of either arsenic or mercury in this disease seems to produce a relative immunity to the action of the drugs, demanding, hence, very large doses in future treatment, or a change to some other form of treatment.

As an internist, and speaking for that class of practitioner, I may say that syphilis comes to us from its earliest manifestations in the child in utero till its latest manifestations in middle life, in the cord, the meninges, the brain or the internal organs. If the internist is doing, as most are, more or less of a family practice, he cannot avoid seeing this disease in every possible gradation, nor is he justified in relegating it to the care of any other physician who is devoting himself along other lines of study and

practice. This statement is, of course, susceptible of some modification, inasmuch as good sense and good judgment would relegate certain phases of nervous disturbance to the neurologist, certain others to the dermatologist, and certain others again to the surgeon. However, for one case of syphilis that these specialists see, the internist, who may be characterized as an idealized family practitioner, sees a hundred, and hence must be prepared to study and treat it in all its multitudinous ramifications. The internist *per se*, however, sees most of his syphilitic cases in the later secondary or early tertiary stages. The various cirrhoses, the vascular degenerations the myocardial changes resulting from vascular disturbance, the beginning tabes, the early cases of mental disturbance, these all are the types most commonly seen. How, then, does he treat them? As suggested before by a thorough saturation at the earliest possible moment with arsenic. Injections of the full dose of salvarsan once a week for several doses, with the thorough use of mercury by injection or inunction during the intervening time. In some of the later stages, where the specific organism is locked up in the gummas or in new tissues, the use of iodide of potash for its destruction of tissue, and consequent exposure of the spirochetes to the action of the etiotropic remedy, is much indicated. For its solvent action on the fibrous deposits in the arteries, such as occur in syphilitic endarteritis, or in deposits in the posterior columns of the cord in the early stages of tabes or to accelerate the breaking down of gummas in the liver, the same remedy may be considered of great value.

Such would be the method of treatment for cases reaching the ordinary internist in the course of ordinary practice. Since, however, the genius of modern medical therapeutics is that of prevention rather than cure, a better appreciation by the public of the dangers inherent in the uncertain venereal sore, and by the physicians of the responsibility weighing heavily upon them, would eventuate in the cure of most of these cases before they reached the hands of the advanced internist. In other words, they would be cured and the organism would be obliterated from its host before ever it had had an opportunity of reaching the deeper seated organs and tissues selected for a later growth. If then, such a course were adopted, the late stages of syphilis would not longer be seen, or seen so rarely as to be considered medical curiosities. The work of the neurologist would be halved, and that of the internist greatly

lessened—all of which brings us up to another aspect of the subject.

Syphilis is a great economic question. It is one of the scourges of mankind. Bubonic plague has slain its thousands, and slain them frankly. Syphilis has slain its tens of thousands, and slain them insidiously. The moral turpitude of the individual involved is not a question for the physician. The cure of the patient in the shortest possible time, and at the earliest possible moment, with a consequent protection of the innocent, is the desideratum to be achieved. In my early days it used to be an old saying to a syphilitic: "This cost you a dollar to get; take another dollar and go get it cured." With our newer conceptions of disease, economics, and morality, we view the situation in an entirely different way. If these cases are not cured early, many of them are not going to be cured at all. Their expectancy of life will be materially shortened, and from an economic standpoint the saddest feature is that for years they will be dependent upon the public for support. Hence we urge, cure the syphilitics early and they can support themselves and their dependent families up to the period of their full vital expectancy. Allow them to go uncured, or but half cured, and they become public charges in our asylums, supported by the taxes taken from the pockets of us who remain well; their families thrown upon the streets to starve, to become immoral, or to degenerate into the frankly criminal classes.

It is the writer's belief that every hospital should have a ward devoted to the syphilitic in their openly infectious stages. In the non-infectious stages, namely the late tertiary, they should be permitted to mix with the other patients in the hospital freely. There is, however, no greater danger of contagion in a hospital from a syphilitic suffering from a contagious type of the disease, than there is from a patient suffering from typhoid fever, pneumonia or tuberculosis. Ordinary hospital care and segregation should maintain perfect immunity for the other occupants of the building. Syphilitics should be encouraged to come to the hospital and receive treatment on the first evidence of the disease, and should be encouraged to remain until saturation with arsenic and mercury is complete. It may not be known generally, but it is a fact, that so far as I can discover, in no hospital in this city or elsewhere, have arrangements been made whereby the poor can receive gratuitously, sufficient salvarsan to produce immunity and sufficient Wassermann reactions to

demonstrate the same. The poor man afflicted with syphilis, and the ignorant man who is so liable to it, can in no wise afford \$5 for a dose of salvarsan, nor the same amount for a Wassermann reaction. False sentimentality should be abrogated at once in this matter; the public be awakened to the dangers to which they are exposed; municipalities should contribute their quota to the cure of these dangerous cases, and hospitals should welcome them with open arms. Much has been done to awaken the public to a proper appreciation of the gravity of the situation; much remains to be done.

Right here reference should be made to an error in treatment which seems to the writer all too common. It is a perpetuation of the error promulgated at first by Ehrlich and his school, namely, the possibility of immunizing the human organism through a massive dose of arsenic the *therapeia magna sterilans* of the early enthusiasts. Out of the mass of evidence accumulated through clinical observation since salvarsan was introduced, the following may be gleaned: Syphilis cannot be cured by a single dose of arsenic any more than it can be cured by a single dose of mercury. A dose sufficient to destroy all the organisms in the human host will destroy or seriously damage the host himself. Clinical observation has demonstrated the absolute necessity, if a cure of syphilis is to be achieved, of at least several doses of salvarsan, a week or more apart, and mercury in the intervening time as well as later on. The common report that one hears of a certain person having had a "shot" of "606," and hence being cured of syphilis is pathetic. For this belief, so common among the laity, the medical profession is either ignorantly or maliciously guilty. Let us trust that in most cases it is the former, and let us correct our knowledge and our wisdom of action.

Could an accurate registration of all syphilitics be secured, not for publication but for statistical information, records of a valuable type would be ultimately available. Many new stories will undoubtedly be told of syphilis twenty-five years hence, and statistical information will modify them tremendously. Other acts as already mentioned, will be played in this drama and other actors will take part in it. As for us, let us play our part well and according to our knowledge.

SYPHILIS FROM THE NEUROLOGIST'S
POINT OF VIEW.*

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If we do but remember that syphilis is a disease which affects the entire civilized world, and that each one of us must have had, theoretically at least, over a million living ancestors at the time that Columbus discovered America, scarcely any man will deny that some of the branches of his family tree must have suffered from this blight. If this be true then the blood of almost every one well may carry, in a more or less attenuated form, the products of some ancestral infection. This does not mean the active spirochaeta but rather a luetic taint very probably remains in the system. Just what this taint is and how long it continues to manifest itself and under what guises it appears is one of our most interesting problems.

Like most other diseases, lues is a self limited disease; that is one which can wear itself out without treatment of any kind.

The gradual diminution of its force may be observed in many families suffering from specific infection. Some years may elapse before pregnancy occurs. Then the first ones terminate themselves in the earlier months while those which follow, after a few more years, either end prematurely or are still born. Many which then follow are born alive but suffer with convulsions of some form of physical or nervous disorder, and are likely to die in infancy. After a number of years, however, the children of such a family appear healthy enough and live to maturity. It is from among these that we find the greatest number of recruits who throng our public clinics, especially clinics for nervous diseases. Their nervous organism is not robust and they are doubtless less efficient in many lines than they otherwise would have been. This seems to prove that the force of the disease spends itself gradually and that in time the body overcomes it. This may not occur, indeed, until after irreparable damage has been done to the individual himself or to his posterity. The question of paramount interest then is: "How far does the taint of specific infection affect future generations?" This applies of course to untreated and to uncured cases, for if a case be well treated and cured I feel positive that it does not enter into this problem at all, excepting in so far as the victim may have been weakened

by the infection just the same as by typhoid fever or any other disorder.

The Bible says the sins of the father are handed down unto the third and fourth generations, and it seems more than probable that this refers to syphilis. The idea is gradually spreading that the remote effects of lues are at the bottom of over one-third of all the diseases of mankind.

The Wassermann reaction has done more than any other one thing to establish and to confirm this opinion. Besides enabling us positively to diagnose syphilis it has done so much toward gauging the efficiency of treatment, that it has become of more practical value to us than the recognition of the germ itself. The "Luetic" test, which is analogous to the von Pirquet test in tuberculosis, and which is just coming into use, promises to be of even more value. It can be used by the general practitioner anywhere and at any time and is absolutely specific. The Wassermann is not absolutely specific as it has been found to be positive in leprosy, scarlet fever, pellagra, severe tuberculosis, carcinoma as well as after the Pasteur treatment, and in one or two tropical diseases. It may be said that these diseases are unlikely to come into question with lues and that it was difficult to exclude concomitant lues with those particular cases in which it was found.

It is interesting to note how much more common a disease syphilis is apparently becoming, in proportion as we are better enabled to recognize it. Only a few years ago it was considered to be a rarity; now we may well wonder how many of us are free from it.

Lesser, in Berlin, has made a study of it as it appears at autopsy, and in the course of thousands of postmortem examinations made at random, he finds that over 10 per cent. present unmistakable anatomical signs of having had lues. He estimates that 20 per cent. of the adult male population of Berlin have, or have had lues. Barrett, at the instance of the Australian government, made the Wassermann test on the blood of every one coming to The Melbourne Eye and Ear Infirmary. Most of them came merely to get glasses fitted, but 13.3 per cent. of them reacted positively to the test. Few of them would ever have been suspected of having had any infection and doubtless most of them would be astonished to learn that they are syphilitic. The neurologist was one of the first to suspect that syphilis might exist without chancre or without secondary manifestations, and now few of us doubt most of our patients when they

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declare that they never had a primary lesion, even though we are sure that they have an acquired infection. It seems quite possible that the germ may enter the system in some manner without leaving any immediate trace of the fact. It is remarkable that these unsuspected cases, and the mild ones which cause almost no symptoms at first, are the ones that do most damage to the nervous system. Without the Wassermann test it would have been almost impossible to prove the relationship of many diseases to syphilis which we now recognize either as post-syphilitic or perhaps even as an atypical form of syphilis itself. The more proficient we become with the Wassermann test and the more we investigate many of our vague diseases the more of them we find which are due to the spirochaeta.

The neurologist has to deal with the tertiary and the so-called "parasyphilitic" forms of the disease. The term "parasyphilis" was first used by Fournier to designate those atrophic and degenerative conditions which follow syphilis. The greatest difficulties have been encountered, as has been said, in proving that they were the results of lues, especially as the patient absolutely denied any infection. Just why the "mild" cases should show a predilection for the nervous system has been difficult to explain. Recently, however, Marie and Levaditi of Paris have attempted to show that this is to be explained by the existence of more than one variety of spirochaeta. The evidence they advance is certainly seductive. First they show that a paretic will occasionally contract the more vulgar form of syphilis with chancre and secondaries. Then they declare that the incubation period is longer and that the initial lesion, when it appears, is different from the ordinary chancre. Then this variety of virus as a rule will not affect or infect monkeys. Lastly they have collected hundreds of cases where both man and wife develop the same form of trouble. Either both will have paresis or tabes, or both will suffer with secondaries and gumma. Rarely are the two different kinds found side by side in the same family. Then there are many cases similar to that of the six medical students who contracted lues from the same woman, herself a paretic, of whom five died of paresis. It may not be out of place to say the sixth one died as the result of accident. It has long been observed that those persons who show marked primary and secondary manifestations practically never have the later nervous affections. At any rate the theory of the exist-

ence of more than one variety of organism is both reasonable and satisfactory.

The first among the vague nervous disorders to be identified as dependent on a previous syphilitic infection was locomotor ataxia, or tabes. The recognition of it was due to Fournier. In the case of paresis it took over fifty years to prove its relationship after Esmarch, in 1857, called attention to its frequent association with lues. Then one by one a number of other disorders were found to be post syphilitic, until now there are a score of them.

Fournier included certain forms of progressive muscular atrophy, certain forms of hysteria and neurasthenia. Then he went further and said that epilepsy appearing after the age of 35 and without definite cause and previous symptoms was due to hereditary syphilis. Later he added hydrocephalus and congenital idiocy, as well as some forms of malformation, arrested development, non viability and meningitis.

Other observers added lateral sclerosis and optic atrophy to this list. Even our latest knowledge of syphilis has not enabled us to exclude any of the above mentioned disorders. And now over 50 per cent. of the congenital mental deficiencies—heretofore in a class by themselves—are being proven to be associated with hereditary syphilis. In fact, as one author says: "The more thoroughly that cases of nervous disorders in children are examined the greater the proportion in which we find indications of syphilitic origin."

There are other manifestations of lues which might be mentioned. These include some forms of meningitis, neuritis and sciatica as well as some tumors, many cases of apoplexy and most cases of epilepsy, not due to alcohol in the parents. Therefore it becomes more and more evident that careful and exhaustive inquiry into the antecedents of nervous cases is of the greatest importance. If possible, one should never be satisfied with an evasive or a careless answer in reply to a question as to the family history.

The taking of a Wassermann test has become almost a routine with the careful and thorough nerve specialist. When this is done regularly we will encounter many a surprise, and though the syphilis may only be concomitant the importance of its recognition is beyond argument. A positive Wassermann will partly clear up some of the most obscure cases which we ever encounter, and thorough antisyphilitic treatment will usually do the rest.

The above mentioned diseases are commonly

referred to as "post-syphilitic" though this is a misnomer. They are in fact syphilis itself, just as tubercular adenitis is tuberculosis. A positive Wassermann reaction denotes the presence of active living spirochaeta in the body and indicates the necessity for energetic anti-luetic treatment.

Active spirochaeta have been found in the brains of living paretics as well as in many parietic brains at autopsy. Spirochaeta have also been found in other of these so called post-syphilitic disorders.

And now as to the prognosis and treatment of these cases:

It has generally been admitted, for many years now, that the prognosis of locomotor ataxia and paresis is bad. It would be unwise as yet to say that the prognosis has materially changed, but within the last two years there has been a revolution in methods of treatment. During the last year I have treated a number of cases with apparently good results, but sufficient time has not elapsed to be sure that the improvement is real and not simply due to an accidental fluctuation in the natural course of the disease itself. Our present method of treatment seems indeed to be not only rational but to be the first scientific and exact attempt at treatment yet undertaken.

These two diseases are local syphilis, due to the direct attack of the spirochaeta on the cord or brain itself and within the spinal and cerebral meninges. As far as we now know very few drugs are able to penetrate within the cavity enclosed by these membranes. Almost the only known one is urotropin. If therefore we expect to obtain any effect on spirochaeta within this canal, we must put our remedies directly where the disease is, that is within the canal. In Italy physicians have successfully injected the pure bichloride itself, and in other places they have used salvarsan solution directly. These procedures have occasionally been followed by abscesses, paralysis and even death. In America we have resorted to a less direct method.

First the patient is given the usual dose of salvarsan. After one hour, while the blood is still saturated with the drug, and after the system has had an opportunity to form as many antibodies as possible, two hundred cubic centimeters of blood are withdrawn. This is then kept in a refrigerator for twenty-four hours and the cells separated from the serum. Then as much cerebro-spinal fluid as can be withdrawn is taken by means of a lumbar puncture and

replaced by fifteen or more cubic centimeters of this salvarsanized serum. This method possesses the advantage first of withdrawing a certain amount of toxic fluid as well as diluting the fluid remaining. Secondly it injects a certain amount of antibody itself, and lastly it makes use of an active spirochaeticide. The results of such treatment usually appear promptly and one need not fear any ill effects from the injection if it is carefully done. Most of the results I have observed are very encouraging. Pains in locomotor ataxia and the vomiting in gastric crises have yielded in a day or so. Other symptoms have abated. Only a considerable lapse of time will determine the real value of this treatment.

Other nervous disorders, when recognized as due to syphilis, needless to say, should receive active specific treatment. Salvarsan, the regular 606, seems more potent and effective than the "neo-salvarsan." It helps materially in our treatment. It should be given repeatedly and in liberal dosage. It is only from substantial treatment, and treatment continued over months—if not over years—and persisted in till the Wassermann reaction becomes and remains permanently negative, that one can obtain satisfactory results. Of course one cannot regenerate nerve cells that are destroyed or cause nerves to conduct impulses after they have lost their axis cylinders, but we hope that the progressive course of many of these diseases may be checked, pain allayed and at least moderate comfort assured to the poor victim.

1541-9 David Whitney Bldg.

PREVENTION, DIAGNOSIS AND TREATMENT OF EARLY SYPHILIS.

H. R. VARNEY, M.D.

DETROIT, MICHIGAN.

Syphilis, the most common of all chronic diseases, is neither confined to a nation, a certain class in any nation, nor is it any respecter of person, age, sex, color, rich or poor. All living humanity is susceptible to its infection, and all classes in every nation have it at the present time in varying percentages.

While no accurate ratio of the percentage of syphilitics can be or ever will be definitely known, it is estimated that there exists in the United States in both city and rural districts a syphilitic to every twenty inhabitants. Personally, I believe this ratio to be low, basing this belief upon the increasing percentage of this infection, which is now detected and diagnosed

daily in every large hospital service. The modern means of diagnosis by serological tests is instrumental in conveying definite knowledge of existing infection in a percentage of cases who never knew when such an infection was acquired. This class of unrecognized and therefore untreated syphilitics is a large one, and it is this class that are the carriers and transmitters of the disease directly as well as through their progeny.

Recent knowledge of the etiology and treatment of syphilis has greatly changed the social and mental attitude of our commonwealth toward this unfortunate class. No longer are we throwing up our hands in horror, or speaking in hushed words the name of this disease. Hospitals, until recently, have rejected this class of patients, when today it is very gratifying to know that a large percentage of our general hospitals have thrown wide open their doors to the treatment, proper care and assistance in stamping out this disease. To the profession and to those who care for many of this class of patients is due the credit of the change of heart and attitude of the directors of the hospitals throughout our lands.

Prophylactic means to prevent the transmission of this disease is a vast subject and one which will soon require the most strenuous efforts from the public health services both federal and civic. Hospitalization, compulsory periodical treatment and perhaps secret reporting of all cases of syphilis will be some of the definite means in the prevention of the infection of the innocent. Statistics of the prophylactic methods employed by the armies of different nations have shown these methods to be a wonderful reduction in the percentage of cases. No statistics from any class of patients could be more definite and convincing because of the strict control and early reporting of all suspicious lesions which are required.

In no other disease in all internal medicine is it so eminently important to make a definite diagnosis at the earliest possible time. Positive diagnosis, made in the first few days or two weeks of the existing suspicious lesion, means early cure, if the treatment is vigorous. It is in this class of cases that the largest percentage of cures is brought about. On the other hand the more general or systemic the infection, the more difficult it is to bring about control or possible cure. One is able to make a diagnosis by demonstrating the organism in the fissure or excoriation, as early as the third day. At this stage of the infection the disease is still quite

local, which is partially demonstrated by the negative serological findings. The methods employed for such an examination can be had and kept in perfect order so that examination and positive diagnosis can be made upon a doubtful lesion at the time of the patient's first visit.

The method most quickly employed and the most readily accessible is the dark field illumination. If the suspected lesion, no matter what its clinical manifestation may be, has received no medication, especially mercurial locally applied, the organism should be promptly demonstrated from a small amount of serum drawn from the lesion by a gradual suction with a Bier's hyperemia cup. If medications have not been applied and the result of the dark field examination is negative, instruct the patient to withhold all medication and repeat the examination every twenty-four hours until you are satisfied regarding the presence or absence of the spirochaete pallida. At this stage of the infection, hours mean much to the patient regarding the prevention of a general systemic infection. The India Ink method of demonstrating the organism or the Gimsea method of staining the organism are not as definite or so readily accomplished as is the dark field examination.

Differential diagnosis of the clinical characteristics of the suspected sore are of little value in the first fifteen days of the existence of the lesion. The sensitiveness of the lesion and the amount of discharge convey no definite knowledge nor should they be entertained as of any value, because it is possible to have a clinically characteristic soft lesion in which there may be a small unobserved area inhabited by the spirochaeta. Too often it is the most damaging, doubtful advice given the patient who presents himself with a suspicious lesion, that the lesion is a small soft sore, a mere cauterization or dusting powder and the patient is allowed to go away with false hopes, until general systemic infection with its chain of clinical symptoms present themselves. This character of medical advice is worse than nothing. If a physician who sees such a sore is not able or equipped to carefully and accurately determine whether or not there exists in this lesion organisms of syphilis, he should equip himself with such means or send such a patient to the laboratory where such examinations can be made and a diagnosis arrived at upon the first observation of the lesion. It is needless for me to state that to cauterize such a sore or to apply medications which interfere with a microscopic examination of such a

lesion is not only harmful treatment but most damaging to the patient, and sooner or later the physician and the druggist, who counter subscribes, will be held responsible if he so improperly treats such a case, masks examination and allows such an infection to go on undiagnosed.

The teaching of differential diagnosis of the cutaneous manifestations of the different stages of syphilis do not hold the important place at the present as in years gone by. We no longer instruct the student to wait, in the case of a suspicious lesion, until the chain of systemic cutaneous symptoms present themselves before a diagnosis is made. Serological evidence in both blood and spinal fluid often overshadow in importance the differential cutaneous doubtful conditions. The small patches of what has been clinically diagnosed as eczema very frequently are now proven to be positive local remnants of syphilitic infection, such evidences being proven both serologically and therapeutically.

There is a large percentage of the medical profession who, I am positive, because they admit it, still hold the idea that once a syphilitic always a syphilitic. Personally, I feel that with the modern treatment of the disease and the definite laboratory knowledge of checking the progress of treatment, that I can say the word cure, and convey it to my patient, who has this disease, with all the emphasis that can be put in a word of four letters, which means so much to the patient. The pessimistic physician will say "How do you know your patient is cured?" We can now answer that a certain percentage of patients, if seen in the early existence of the sore and the lesion is correctly diagnosed the patient saturated with both mercury and salvarsan in the first week of his local infection, can be cured. I have yet to see my first case, diagnosed and treated at this stage of the disease, demonstrate one of the systemic symptoms that make up the chain of the secondary stage.

Early treatment; symptomatically and serologically cured; spinal fluid negative; is this patient cured? The last check upon such a patient is the inoculation or the demonstration of syphilis the second time. In the Rudolph Virchow Hospital service in Berlin and in the large naval syphilis service at Kiel, Germany, there are two syphilographers who have a large number of cases, soon to be reported, that have had syphilis and were treated by salvarsan and mercury and have been discharged clinically and serologically cured. Many of these patients have returned in a varying period of time with a

second sore and with a second positive serological test, which is absolute proof of a second infection meaning that they were cured of the first infection.

There are several hundred cases, now being compiled, that have had a second infection, which demonstrates the real positive fact that the first infection was absolutely cured in order that the second infection could occur.

No disease in all medicine is at the present time so promiscuously treated by the profession, as a whole, as this disease. Some feel that all that can be accomplished is simply the control of the clinical symptoms and when such symptoms disappear, treatment is discontinued and the patient allowed to go unobserved for indefinite periods. There are others who feel that the only medication necessary is that which can be administered per month.

The most convincing demonstration of the statements just made regarding the treatment of this disease generally, can be obtained if one were to attend and to hear the lectures from the faculties of our teaching institutions and their ideas and methods pertaining to the treatment of this disease. All chairs in all medical colleges teach syphilis and its treatment, and each in a different manner. A step in advance in the attitude of any teaching faculty would be the bringing about of a definite uniform knowledge of syphilis and its treatment, so that the student could be credited with such a definite knowledge. Recently I personally suggested to the faculty of our college the advisability of two weeks in the college curriculum when every chair and adjunct to the chair shall teach didactically and clinically, syphilis during this period of time. Preceding the period for this special teaching, it should be the duty of the chief in medicine to call a meeting of the teaching staff and arrange the subject regarding the definite diagnosis, symptomatology and treatment of this disease, in such a manner that the knowledge conveyed to the student is uniform and conclusive. This is most important, because the text books of yesterday upon this subject are out of date today, so productive has been the recent scientific knowledge given us.

There are definite rules that are definitely proven pertaining to the best methods of treatment in the different stages of the disease. The treatment must be more or less chronic and more or less continuous. It has been clinically proven that it is impossible to sterilize the patient with a mass dose of any drug, with the exception of a small percentage of cases. Vigorous treat-

ment with mercury and salvarsan, alternately assisted by iodide of potassium, in certain phases of the disease, is the most satisfactory method now employed. In the early infection, the most vigorous and prompt saturation of the patient with mercury and salvarsan administered in a definite dosage and by different methods will prevent systemic infection. In this type of cases, I firmly believe the patient to be cured in weeks instead of months and years.

CONCLUSIONS.

1. An early diagnosis is most essential.
2. Positive diagnosis can be made as early as the third day of existence of the initial lesion.
3. Every physician should have at his command facilities to make such a diagnosis.
4. The dark field illumination is the most satisfactory method of demonstrating the presence of the organism in the lesion.
5. To aid in the eradication of this disease it should be placed under the regulation of the board of health.
6. Revision in the methods of instruction are necessary.
7. Many cases remain untreated because of improper diagnosis.
8. That the mixed treatment, vigorously applied is the most satisfactory.
9. If diagnosed early, syphilis is clinically and serologically curable.

A PAINLESS METHOD OF INTRAMUSCULAR INJECTIONS OF MERCURY SALICYLATE.

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DETROIT, MICHIGAN.

In my experience with the treatment of syphilis I have had several practical problems impressed upon me which are as follows:

1. That a very large percentage of the laity have the belief that "one shot of 606" will cure them and that no other treatment is necessary.
2. In the use of injections of mercury nine out of ten private patients will either object, refuse or follow the treatment in a dilatory manner. Naturally in a hospital, where one has complete control over his patients, this method can be carried out to the letter but when left to their own responsibility they shirk this apparently irksome duty and unsatisfactory results follow.
3. The greatest objection of the patient to intramuscular injections of mercury, seems to be from the pain, consequently I have been endeavoring

for some time to find a way of eliminating this objectionable feature. The result, as nearly as I have been able to determine, is a new method for the intramuscular injection of mercury salicylate.

I use a 10 per cent. solution of mercury salicylate in albolene oil and one grain of novocaine to the ounce. Of this solution I usually inject 1 cubic centimeter which contains approximately mercury salicylate grains $1\frac{1}{2}$ and novocaine grain $1/32$.

A sharp needle is highly essential but a special one of platinum or other precious metal is not necessary. I use an ordinary steel slip-on needle, gauge 26 and length 4 centimeters with a ground glass syringe. Mercury is hard on needles and it therefore becomes necessary to either buy a new needle occasionally or sharpen the old ones on a small stone or file. Oil passes through a dry needle better than a wet one. If you boil your needle let it dry thoroughly before using oil. Always sterilize and dry your needles before putting them away. By this method the life of an ordinary twenty-five cent needle will approximate that of Methuselah.

4. A great many physicians give intramuscular injections by merely sticking the needle in and expelling the contents of the syringe. I have seen one patient die by this method and therefore think it is a much more rational procedure to first insert the needle separately, then wait a second or two to determine whether or not one has accidentally hit a vein and then attach the syringe and inject the mercury.

5. Another objection to intramuscular injections is the formation of a palpable lump or mass at the site of injection which is painful on pressure and usually remains from a few hours to several days. The application of a hot, moist towel following the injection favors the early absorption of the mass and together with the novocaine practically eliminates all pain and tenderness.

1108 Kresge Bldg.

Warner's Safe Remedy.—"Warner's Safe Remedy for the Kidneys and Liver and Bright's Disease" is reported by the A.M.A. Chemical Laboratory to contain alcohol, by volume, 14.40 per cent., glycerin, by weight, 7.72 per cent., potassium nitrate 1.75 per cent. and vegetable extractives. This preparation consists essentially of alcohol and potassium nitrate. Alcohol is contraindicated in inflammatory diseases of the kidneys and potassium nitrate is a kidney irritant. Sufferers from kidney diseases who take Warner's safe remedy will shorten their lives (*Jour. A.M.A.*, Dec. 19, 1914, p. 2246).

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, February 10, 1915

The President, **HOWARD H. CUMMINGS, M.D.**, in the Chair
Reported by **REUBEN PETERSON, M.D.**, Secretary

THE EFFECT OF PITUITARY SUB- STANCES UPON THE FEVER PULSE.

ALBION WALTER HEWLETT, M.D.

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It is well known that in fever the pulse is frequently of a bounding character. Tracings of the blood flow in the brachial artery show that this type of pulse is usually due to a marked reflection of the primary pulse wave in the arm and that while it may occur in a variety of conditions it is particularly well marked in certain patients with fever. Inasmuch as this change in the pulse is one of the common circulatory manifestations of infection, it is of interest to determine if it is possible to influence this pulse form by drugs. Of the drugs which have been tried, strychnine was without effect, and in a few observations intravenous injections of strophanthin were also without effect. On the other hand pituitrin in subcutaneous doses of one and a half cubic centimeters produces a definite effect upon the abnormal pulse form above described. It causes the volume pulse in the arm to become smaller and it changes the bounding, poorly sustained pulse to one which is sustained and has a normal form in the tracings. This effect comes on in fifteen to thirty minutes and lasts from one to three hours.

The bounding pulse of fever seems to be due to a relaxation of the blood vessels. This relaxation must be of peculiar character, however, for this form of pulse is not necessarily associated with a low blood pressure. So far as the arm of man is concerned it seems to affect the larger arteries whereas the smaller arterioles in the arm are not dilated. The blood flow through the arm is not increased. We believe that the arteries in the interior of the body are also relaxed, but whether this applies only to the main trunks or to the

finer arterioles in certain vascular areas as well, we do not know. In favor of the view that the typical pulse of infection is associated with vascular relaxation is the fact that similar changes in the pulse form are produced by nitroglycerin. The action of pituitary extract in therapeutic doses seems to be opposite in character to that of nitroglycerin. This is in accordance with experimental studies which show that pituitrin constricts the blood vessels.

Much discussion has arisen as to the nature of the cardiovascular collapse encountered in certain infectious diseases. This collapse has not the ordinary clinical characteristics of heart failure and it has been maintained that it is due to a vascular relaxation. Although important arguments have recently been advanced against the view that there is a vascular paralysis in infectious processes, nevertheless the character of the pulse in fever and especially in severe infections seems to indicate that vascular relaxation is here present. Whether this actually contributes to the symptoms of cardiovascular collapse remains to be proven. So far as we have been able to determine, pituitary extract is the only drug which will convert the abnormal pulse form so frequently seen in fever into a relatively normal pulse form. Whether it will prove of value in febrile collapse can only be determined by actual trial at the bedside.

DISCUSSION.

DR. HARRY B. SCHMIDT: I have been interested particularly in the use of pituitrin for its effect on the blood pressure. There have been a number of reports in the literature in regard to its effect on the systolic blood pressure. Dr. Solomon S. Cohn of Philadelphia, Musser, Jr., of Philadelphia and Zeitman of Washington have reported numerous cases. However, their experiments were not controlled. For instance, Cohn uses it promiscuously in all sorts of conditions, especially pneumonic cases. He observes the patient feels better, the pulse slows, etc. Musser's patients, in the out pa-

tient department, were given the dessicated gland by mouth.

They came there once or twice a week for observation, therefore he could not be sure but that some other influences were at work. Zeitgman uses it in cases of decompensated heart. He made use of percussion to show a diminution in the area of cardiac dullness under the influence of pituitrin, which is a very indefinite procedure.

We have been working with pituitrin with patients in the ward, putting them to bed, taking the blood pressure every fifteen minutes for one hour, and then giving pituitrin hypodermically and again taking the blood pressure at ten minute intervals for an hour and a half or longer. We have found that in these cases the diastolic pressure is elevated; this may not be much but it usually rises. The systolic pressure is variable, it may rise, fall or remain normal. I have used the Jacquet polygraph in taking pulse tracing on every case, and have found, as Dr. Hewlett has described. I worked on two cases that had collapsing pulses without fever. These patients did not have aortic insufficiency but had very collapsing pulses with pronounced diastolic murmur. After the injections of pituitrin the pulse form was changed. The drug usually acts in anywhere from fifteen minutes to half an hour. Its effects may be continued for an hour to an hour and a half or two hours. Pharmacologists report that in animal experiments there is an anaphylaxis and that no results are observed following a second injection. I have noted that the results were the same or even better following the second and even the third injection.

DR. A. H. BEIFELD: I would like to know whether the pulse pressure—the difference between systolic and diastolic pressure—varies with the variation in tone of the blood vessels as affected by the pituitrin.

DR. W. F. SEELEY: Some time ago in running a series of obstetric cases, I ran a few cases with reference particularly to the systolic pressure, and the pulse rate, and I agree with Dr. Schmidt that in some cases we saw the phenomenon that is usually supposed to occur, slowing of the pulse rate and increase in the systolic pressure. In other cases I found a diminished systolic pressure and a diminished pulse rate. In other cases the systolic would remain the same or diminish, but the pulse rate would increase. I remember also two cases in which we had symptoms of collapse after the injection of pituitrin. Both patients were at rest and had been previous to injection. The symptoms were those of collapse, cold sweat, pallor and a quick, irregular pulse. I know of only one instance in the literature, a case reported by Heaney of Chicago, in which this is mentioned. I would like to ask Dr. Hewlett the possible explanation of this.

DR. WALDRON: Was any chloroform given in any of those collapse cases?

DR. SEELEY: In neither of these cases were the patients in labor. Pituitrin was given simply to get the effect on systolic pressure and the pulse rate.

DR. HEWLETT: We have had no observations similar to those of Dr. Seeley. Dr. Schmidt has found that one can obtain similar effect to those described with smaller doses of the drug. It is interest-

ing also that therapeutic doses may be repeated several times with the same result, whereas in the larger doses used experimentally the effect on the blood pressure may be absent or reversed on later injections. The action on man can be observed with a simple sphygmograph or by careful palpation of the pulse.

In regard to Dr. Beifeld's question as to the pulse pressure, the observations of Dr. Schmidt indicate that while changes in systolic pressure are by no means constant there is usually a rise in the diastolic blood pressure as a result of the injections of pituitary preparations. The interpretation of this diminished pulse pressure is not easy. One might assume that the cardiac output is decreased, as Dr. Wiggers found to be the case in experimental studies. I think, however, that most clinicians at the present time are rather cautious about drawing deductions from pulse pressure.

That the drug in therapeutic doses constricts the blood vessels seems certain. Whether this is of any therapeutic advantage remains to be demonstrated. Clinical observations should be made, particularly in acute hemorrhage, in acute surgical collapse and in the collapse of the acute infectious diseases. Observations of this sort made by Klotz in patients with general peritonitis have been somewhat encouraging.

The changes in pulse form produced by pituitary extract are similar to those by cold baths. The latter effect the vessels near the surface of the body while pituitary extract is believed to act equally upon the vessels in the interior of the body.

ACUTE ALCOHOLIC HALLUCINOSIS IN GENERAL PARALYSIS WITH THE ADDITIONAL COMPLICATION OF HERPES ZOSTER FOLLOWING INTRASPINOUS INJECTION OF SALVARSANIZED SERUM.

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F. N. L. is a male, aged 29, unmarried, common laborer. His family history is unimportant with regard to insanity, syphilis or alcoholism. His own history is unimportant except for syphilis at 23 and constant excessive alcoholism. From the age of 18 years he had drunk to excess, mainly beer. Practically all his wages, for some time, fifteen dollars per week, have gone for drink. At one time two years ago, he was drunk every night. Since then he would be drunk about once a week. He rarely used whiskey but he "can stand an awful lot" of beer.

The first thing to attract attention was in September. He suddenly stopped drinking. No mental peculiarities had become apparent before that time but he began to talk about a gang that was after his brother. This gang had a

brown bottle with some poison in it. One night he went to meet his brother on his way home from work to give him a beer bottle with which to protect himself in case he were attacked by this "brown bottle gang." He gave a vivid account of watching this gang attack an old man on the porch next door, force their poison down his neck and then throw him off the ledge. He tells of this being written up in the paper. Occasionally he became frightened at night. At first it was his own brothers' and sisters' voices that would talk to him but shortly he would hear the different members of the "brown bottle gang" outside his window, threatening him as he said his prayers. These threatening voices became so vivid that he would cover his head with his pillow to keep the sounds out. He became in constant fear. During the day they followed close on his heels on the street, even dogging him right up to the door of his own house, but it was at night that they were at their worst. Finally the gang became so aggressive that they would put a ladder against the side of the house and send a little boy up to knock in the window so they could get at him. His fright and terror became so extreme as to drive into a mild excitement in which his apprehensiveness could not be calmed. He was removed to the police station where his nocturnal excitement continued for several days. He was admitted to the Psychiatric Clinic, October 23, 1914, a few days less than a month from the appearance of the first symptoms.

During the day, except when taken to some strange place such as the clinic room, he did not show any unusual apprehensiveness, but at night for some time following his admission he would prowl anxiously about his room, try to get away and beg the night nurse for protection. He spoke of a little fellow climbing up the screen on the outside of the window in an attempt to reach a high-lying ventilator opening until he rushed at the window frightening the fellow so that he lost his hold and fell three stories to the ground where his fellows of the gang caught him and carried him away. This little fellow had the brown bottle in his hand with which to render him unconscious and thus let the three fellows in the next room get him. He had seen them put this bottle up to the nose of an old man in the same ward. This old man's hands flew up, his legs gave way, he flopped back and then the gang dragged him out by the feet. There was a similar instance when they dragged another victim out by the ears. "What the stuff is, I don't know. It's a brown

dope of some kind but I know it ain't chloroform or any of that stuff."

Another night he heard the gang outside talking about the possibility of shooting him. One voice alone stood out for him in refusal to allow this; it was an old schoolmate whose voice he had not heard for years. He tried to show us where his brother and a policeman stood talking under his window. He was not sure that he could see them but their voices were so distinct that there was no question of the fact, although he could not distinguish just then what they were talking about. That night this same brother was shot through with sixty-one bullets and taken to the University Hospital where he died.

Then he told of watching through the windows a gang of negroes hold up a woman and take her pocketbook away from her. She had a gun but was not strong enough to use it. This gang of negroes had come out from Detroit to dope women here. Next, one of this gang of negroes had cut off his sister's legs at the knees because she was a Catholic. Then his father and finally all his family had been murdered in most terrifying ways right before his face and eyes and he was the only one of his family left. For a time the brown bottle gang did not enter into his troubles, for these negroes, becoming Spanish niggers and cannibals successively, in some way had got a motor truck and a gasoline furnace with a hack saw and done away with the gang.

About this time, early in November, his sister came to visit him. He was greatly surprised to see her alive, questioned her about it but accepted the truth of the situation. The next day he dismissed all inquiries with "Well, she was all right yesterday." The same ideas concerning her terrible death soon returned. On another occasion shortly after, he visited with her very uneasily, and did not have much to say. The next morning he said, "I thought at first it was my sister but I got wise. It was a man with my sister's head on. He came from upstairs. He stole her clothes. He had her hands cut off. Bob Roder (one of the brown bottle gang) came here dressed up in her clothes. He cut her head off and put it on himself." Let that suffice to give one a fairly comprehensive idea of the content of his thought.

Although he is always suspicious of any strange person or new move, his apprehensive-

ness, which was regularly more marked at night, has greatly diminished. He is extremely dull. For all his constant fear there has been throughout a humoristic vein to the way he would describe these terrible scenes. At no time has there been any suggestion of unclear consciousness. He has continued from the first approximately oriented. His hallucinations, though they appear to be very vivid could only rarely be actually demonstrated, and then only at night. Experimental optic or auditory hallucinations were never demonstrable.

From this description of an individual, given for years to severe and continuous alcoholic excesses, developing suddenly delusions of persecution of a peculiar type resting upon vivid pseudo-hallucinatory experiences, all with a clear consciousness, one would be justified in making a diagnosis of acute alcoholic hallucinatory delusional insanity, or an alcoholic paranoid state.

There are, however, many more points of interest in this case which I have up to this point purposely omitted. His spontaneous speech showed considerable stumbling, slurring and occasional elisions which could be brought out more definitely on test phrases. His hand writing showed from the beginning an extreme slurring and considerable ataxia, with omission of some letters and transposition of others, while now, perhaps due in part to ideational factors, it is an illegible scrawl. He had difficulty in remembering numbers given him and could return stories only in a very faulty and fragmentary way. He knows no one's name. Problems of continuous mental efforts, as subtracting successively sevens from one hundred, or even repeating the alphabet several times running, were done very poorly and caused increasing confusion.

Neurologic examination shows his pupils to be a little small with irregular margins, but only slight impairment of direct light reaction. There is some slight inequality in the facial innervation and some coarse tremors in showing the teeth and also deviation of the tongue to the right on protrusion. The deep reflexes are only very slightly disturbed.

These points are all indicative of a definite organic involvement of the central nervous system. Without the clinical notes already given, such findings, together with the characteristic dullness and lack of all insight would strongly suggest that the disease process was a general paralysis. With only the delusional content of

the clinical history, however, and the knowledge of years of extreme alcoholic excess in this case, one perhaps might be inclined to attempt to explain the organic findings on an alcoholic basis. The fact that alcohol can cause definite structural change in the brain with a quite similar neurologic status is of course well recognized.

Examination of the blood serum and of the cerebrospinal fluid in this case shows a positive Wassermann reaction in both instances and also in the fluid a high pleocytosis, positive Nonne-Apelt and considerable increase in the total albumin in the Nissl tubes together with the typical paretic curve in the Lange colloidal gold test. These laboratory confirmations allow no question as to the presence of a general paralysis process.

Are we justified in assuming that in this patient we have a combination of two separate clinical entities, alcoholic hallucinosis and general paralysis? In psychiatric practice, as in general pathology, the attempt is to run everything down so far as possible to one fundamental disease. The day of the symptomatic diagnosis changing with every change in the course of the patient's disease has long since passed. Combined psychoses are, however, recognized under certain restrictions (1). On a defective basis, as a feeble-mindedness, we may see dementia praecox or manic depressive insanity develop, or a constitutional psychopath may acquire morphinism or some alcoholic psychosis. Kraepelin (2) mentions a long standing case of dementia praecox developing general paralysis in the hospital. Bleuler cites a somewhat similar case. Bleuler (3) likewise comments upon the influence of cerebral arteriosclerosis and senile dementia in liberating the affective reactions of schizophrenics of decades' duration.

Stransky (4) has objected to the use of the term "combined psychosis" is such relations and uses it himself to apply to the mixture of two different but purely endogenous psychoses. The case that he presents as a paradigm, an acute mania with a clear interval following and then a continued catatonic course, from its precipitating certain diagnostic questions would not appear to offer convincing proof of the tenability of his position.

It seems much more rational to follow the practice of Gaupp (5) and limit the use of the term, combined psychoses, which has passed through a succession of changing meanings from Krafft-Ebing down, to two distinct situations: First to apply where mental disturbances are

added as acquired psychoses to congenital psychological anomalies, as maniac depressive insanity to feeble-mindedness for example; and secondly where mental disturbances are complicated by other, frequently chance, brain diseases, (alcoholic intoxication, vascular disease or senile cortical changes for example) and thus changed in their clinical symptoms and course. In this last group our case would fall. How long the general paralysis process has been present we cannot say but whatever symptoms of inefficiency or other manifestation of mental involvement it may have caused were not noted in one of his humble station until the exogenous toxic factor, the alcoholism, precipitated an acute mental disturbance of another sort.

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5. Gaupp, *Centralbl. f. Nervenheilk.* XXVI. 766.

DISCUSSION.

DR. HASKELL: There is another interesting and unusual complication in this case. I had hoped that Dr. Stokes would spontaneously discuss it. This patient has been receiving intraspinal injections of old salvarsan in blood serum without previous intravenous injection, according to the method of Ogilvie. On the third day following his third injection he developed a skin condition on the outer aspect of his left thigh. We thought at first of an anaphylactic reaction due to his eating strawberries the night before, which he said frequently caused such an eruption. The next morning, however, the condition had progressed far enough to be recognized as a herpes zoster, involving by that time the outer aspect of the thigh, reaching in front to the left side of the scrotum and also present over the buttock in two patches, in other words occupying the area of the cutaneous supply of the second lumbar nerve.

The relation of the zoster in this situation is rather puzzling. It may, though not probably in this case, be of the primary infectious type. It is described as a rare "tropic" complication of general paralysis and is also occasionally seen in tabes. It has been reported as resulting reflexly from intramuscular injections of mercury. It not infrequently follows the use of arsenic by mouth, as in the treatment of psoriasis, and has been reported in the literature of more recent years as a complication following the intravenous injection of salvarsan.

There is no case reported in the literature of a herpes zoster following intraspinal injection of salvarsanized serum. Dr. Wile reported Dr. Camp's description of certain changes in the cord following his use of Ravaut's method of treatment, which he interpreted as toxic in nature. We must grant then the possibility of such an action. In a large num-

ber of such treatments I had never before had such a complication.

Herpes zoster has been described following intraspinal injection of cocaine solution in producing spinal anesthesia and there are one or two cases, thought to be traumatic, where the condition has followed a mere lumbar puncture. Pending future developments in this case, I am of the opinion that during the puncture the sheath of the ganglion may have been nipped by the needle, due to his sudden struggling, and that with such an impairment of the structure of the ganglion the arsenical solution was able to work its toxic inflammatory effects with the resulting herpes zoster.

DR. J. H. STOKES: There is very little that can be added. It would be difficult to establish apropos the zoster a diagnosis of arsenical zoster in this case. Arsenical zoster occurs usually after the administration of arsenic by mouth or the intramuscular administration of salvarsan. When I first saw it I thought of arsenic on account of a previous intradural injection. The question as to whether it is or is not a zoster can be settled in the affirmative. He certainly had a herpes zoster of unusual distribution. From that fact alone, however, it is impossible to establish a case in favor of arsenic zoster. I don't think that we would attempt to maintain that at all.

THE X-RAY DIAGNOSIS OF PEPTIC ULCER.

JAMES G. VAN ZWALUWENBURG, M.D.

(From the Clinic of Roentgenology, University Hospital, Ann Arbor, Michigan).

The Roentgen method of examining the upper gastro-intestinal tract is of comparatively recent development. It is true that the physiology of digestion was studied by Cannon very shortly after the discovery of this means of clinical study, but the observations were confined to fluoroscopic examination of very small animals. With the increase in the thickness of the subject, screen work becomes progressively more difficult. The screen image of a human stomach is lacking both in definition and intensity and many details which are perfectly shown by the plate, cannot be seen at all. Until recently, neither tubes nor generators were available which would produce a plate in an interval of time so short as to avoid the blurring and indistinctness produced by normal respiratory and peristaltic movements. In spite of repeated studies by many able men, not much progress was made. Occasional reports of cases of carcinoma were reported from time to time and considerable attention was paid to gastropotosis.

It was not until the introduction of the high powered generator and the perfection of the intensifying screen, so that the time of exposures could be reduced to the point where sharply

defined negatives of the actively moving stomach could be produced, that progress was possible. Today, plates are being made in from one-half to one-twentieth of a second and at intervals of much less than a second. At present, we recognize no technical limitations except those imposed by the danger of X-Ray burn and the expense of the method.

Today, workers in this field are divided into two main camps with several minor subdivisions. The first in this field naturally placed greater emphasis upon the screen examinations, because it was the only method available. On the basis of a carefully developed technic, a system of syndromes has been developed depending mainly on the size, shape, position and mobility of the stomach, the vigor and character of its peristalsis, and its emptying time. A knowledge of the clinical and laboratory findings are considered necessary in the judgment of these data. A few plates are always taken as a permanent record of the condition observed.

This is the method most popular in Europe and finds several able exponents in America.

The other camp depends largely on the perfection of its plates, and pretends to make a more nearly purely anatomic diagnosis. This requires a large series of plates in several positions, and at various intervals. As many as forty plates may be taken over a period of examination of from twenty-four to forty-eight hours. Much emphasis is placed on the finer details, which completely escape notice in screen work.

The points in favor of the screen method are the cheapness in time and material. As many as twenty-five patients may be examined in a day, and the heaviest expense is the relatively high cost. In the latter method however, the plate cost is almost prohibitive, and two or three patients constitutes a day's work.

The screen method depends largely on the behavior of the stomach. Thus, we have learned that it is influenced by the character of the meal, state of appetite, central and peripheral nervous stimuli, present, past, adjacent or remote pathologies, to name but a few of the distributing factors, all of which are not easy to control; the average of the most experienced with this method leaves something to be desired. The plate method rests on the theory of probabilities. It is recognized that many artefacts must arise where conditions cannot be controlled by the eye at the instant of making the plate. A perfect representation of the stomach and duodenum can only be insured by a sufficiently large series of plates. One plate which fails to

show a certain abnormal feature is sufficient to prove thirty-nine plates, showing otherwise faulty.

It is, of course an error to speak of an X-Ray of the stomach. What we actually produce, is an image of the contents of the stomach. Accordingly, the opaque meal is most important. In Europe, the prevailing custom is to use a starchy meal, neutral in reaction, and almost protein free; milk is carefully avoided. Such a meal is difficult to prepare with the necessary consistency, viz, thick enough to hold the heavy salts in suspension, and thin enough to fill every corner and crevice of the organ under examination. Moreover, it is distinctly unappetizing, and lacks the usual stimulus of an ordinary meal. In America, fermented milk is preferred. It holds the salt exactly, if properly prepared, fills the stomach beautifully, and by its slight acidity, excites the pyloric reflex. I can personally testify to the difference in behavior of the average stomach with the two types of meals.

As to the incidence of peptic ulcer, I need only remark that it is much more frequent than was supposed a few years ago, and the ranks of the neurotic hyperacidities have suffered serious depletion.

Statistics as to the site of the ulcer vary considerably. Mayo reports 73.8 per cent. of peptic ulcers located in the duodenum. Hartman and Lucene quote Ewald as finding only 13.4 per cent. in the duodenum. This is due to the uncertainty in the exact position of the pylorus at operation or autopsy when the whole bowel is relaxed. The clear-cut narrow pyloric ring of the radiogram is not seen under such conditions. Mayo, further opines that the pylorus itself is rarely involved, except secondarily, the French consider it very frequently so. Whether the pyloric vein of Moynihan and Mayo is a reliable criterion, is a matter of future adjudications.

A complete diagnosis should be both anatomic and functional. Anatomically, ulcers may be classified as simple erosions of the gastric mucosa and ulcers complicated with cicatrix, perforations, or adhesions, (callus ulcers). Functionally, they are spoken of as irritable or otherwise. The X-Ray findings are different for each of these classes.

Simple ulcers will show no defect on the plate. It was formerly supposed that a "bismuth fleck" would adhere to the base of a simple ulcer. We now know that such is not the case. On the contrary, the entire effort of the gut is to free the neighborhood of the offending irritating

mixtures, so that the ulcer is "not where the bismuth is, but where it ain't." It may however, be found in the craters of small, deep, round ulcers of the stomach which have perforated, or are about to perforate.

Simple ulcers can only be diagnosed by the altered function of the stomach, pylorus, and duodenum, the signs varying with the location. Simple gastric ulcers may show when examined immediately after a meal, (a) reduced motility, (b) spasm of the pylorus, (c) localized spasm of the muscularis at the level of the ulcer, (d) localized tenderness over the ulcer, (e) normal or reduced peristalsis, and (f) possibly dilatation. Where the extension is deep, a lateral extension of the shadow representing the contents of the crater (Nissen phenomenon) may be seen. In the presence of cicatrix, and adhesions, a deformity constant for all examinations may be established usually with displacement of the pylorus to the left, and an exaggeration of the fish-hook shape. Changes of mobility (as distinct from motility) either on manipulations or deep respiration may sometimes be demonstrated.

The percentage of correct diagnosis in ulcer of the stomach is fairly satisfactory. In duodenal ulcer, the situation is somewhat different.

In this condition, the motility of the stomach is usually increased for a time associated with a hyperperistalsis. This stage of hypermotility is usually followed by one of relatively slow emptying; this is the so-called "duodenal motility." The displacement is apt to be to the right, and a very characteristic hypertrophy and dilatation of the antrum is seen in chronic cases, which has been termed prognathisms. Hyperperistalsis is shown by increased frequency and by increased depth of the peristaltic waves. The tender point is located over the duodenum or a trifle to the right but is often absent.

Considerable importance is attached to the size, and shape of the so-called duodenal cap. It represents the first or ascending limb of the duodenum and according to L. G. Cole is genetically and histologically a portion of the stomach. In normal cases, when well filled, it forms a triangular shadow closely resembling the French liberty cap, hence its name. It is smooth in outline, and its base closely approximates the antrum separated by a narrow clear space, representing the pyloric ring. Unfortunately, it is very difficult to fill completely and changes in its shape must be constant on repeated examination and in various positions.

The duodenum beyond the cap is rarely filled

and its peristalsis is by broad and comparatively rapidly moving waves so that its features are rarely well shown on screen or plate. The sour milk has distinct advantages in the demonstration of changes beyond the pylorus.

For the sake of economy of time and material it is customary to give an opaque meal six hours before examination and another one at the time of examination. The first meal (six hour meal) serves to demonstrate the rate of forward movement of the gastro-intestinal contents. Its head should be at the hepatic flexure of the colon. Any change in rate may naturally be due to gastric or iliac conditions, but within certain limitations it serves as an approximate measure of gastric motility. The normal stomach should be empty in from four to five hours and a residue is presumptive evidence of some organic diseases.

In the radiographic study of gastroduodenal conditions, ulcer and advanced carcinoma of these parts can scarcely be confused. The characteristic lesions of carcinoma is the so-called "filling defect" where the opaque meal does not fill what we conceive to be the normal cavity of the stomach. The shadow is therefore incomplete and distorted, the space occupied by the new growth cannot be occupied by the opaque material. This leads to irregularity of outline or density. A growth on either curvature will be shown in profile while a projection on either wall may be demonstrated by bringing the two walls together by pressure on the abdomen and a light area will indicate the relative thinness of the opaque layer at that point. When, however, a small neoplasm completely obstructs the pylorus, and does not encroach upon the gastric cavity, the picture becomes identical with that of ulcer with cicatrix in the same locality, with this possible difference, that ulcers being the more chronic, lead to a greater degree of dilatation and hypertrophy of the antrum. A small defect on the lesser curvature and near the pylorus may be interpreted either as neoplasm or as cicatrix from healed ulcers. Such doubtful cases are comparatively rare. Most cases of carcinoma are clear and outspoken in their signs when the physician is first consulted.

Carcinomatous degeneration of a peptic ulcer is much more frequent and quite as impossible of differentiation. The exact frequency of such degeneration is variously given as 20 per cent. to 78 per cent. The X-Ray diagnosis is almost invariably "ulcer" and the true condition discovered only on section.

A very vexing field for surgeon and internist

comprises the cases of indefinite abdominal complaints including gastric symptoms, and the radiographer is often asked to distinguish between peptic ulcer, gallbladder disease, appendicitis, adnexal disease, and pure neurosis. Here is where the screen method is particularly defective. The picture includes most of the signs of duodenal ulcer, particularly hyperkinesis and spasm of the pylorus. If, however, plates with their finer detail and greater contrast show a normal antrum, pylorus and cap, we may quite confidently exclude ulcer. A sufficient number of plates at proper intervals and in several positions is essential. Two or three plates may suffice, but the chances of imperfect filling of the cap and therefore, imperfect images, are very great. Occasionally, the diagnosis is possible because the cap demonstrates the impression of a full gallbladder, gallstones may be found, or, the striated appearance of the antrum proclaims a reflex spasm of the pylorus. Even in the latter event, we must remember that remote peptic ulcers e. g. on the lesser curvature or in the duodenum may produce such spasm. Sometimes, it is possible to demonstrate iliac stasis, pericolic adhesions, a kinked appendix, etc. Presence or absence of ulcer may now be answered with considerable confidence, and although that is only one-half of the problem, it is the only portion of it which falls within the caption of this paper. Nevertheless, the great diagnostic wastebasket labeled "Gastric Neurosis" shows gradual and consistent shrinkage of its contents, mainly at the hands of the radiographer and is bound to suffer still more as technic and experienced judgment improve.

The last two years has seen a notable advance in methods and results. Not only is it possible to tell with considerable accuracy the presence and position of an ulcer, but, what is quite as important, we can also give a fairly accurate opinion as to whether or not it is likely to yield to medical treatment. An old callus ulcer involved in cicatrix, surrounded by adhesions and with evidence of improper drainage, cannot reasonably be expected to heal permanently under medical treatment. Incidentally, the probability of malignant degeneration is sufficiently great to warrant prompt excision in this type. The radiogram is a better exponent of anatomic conditions than any other method of diagnosis.

The negative diagnosis i. e. "no peptic ulcer" is of course a corollary to the positive, but offers peculiar difficulties. As stated before, the dif-

ficulty of filling the cap and of distinguishing whether its irregularities are due to organic or spastic causes, makes the number of doubtful cases, relatively great where only a limited number of plates are used. Recently, there has been reported a series of cases confirmed by autopsy with a score of 95 per cent. anatomically correct diagnoses, both as to site and nature of the lesion. In a journal coming to my desk only yesterday, is a series of thirty-three consecutive cases operated for ulcer against the diagnoses of the radiographer in none of which an ulcer found. Other pathology was indicated and found in the majority of cases, also there were several errors in detail or omission because of incomplete examination. Both reporters used a technic requiring from forty-five to seventy plates per case and such results cannot be expected on a more economic basis. Nevertheless, it serves to show the high degree of accuracy which is possible even though not always feasible.

Further progress can only be made by careful and painstaking teamwork between radiographer and surgeon. The interpretation of many of the details of the picture depend largely upon speculation. This is partly due to the fact that conditions seen at the time of examination disappear at operation.

All the features associated with muscular tone and contraction completely disappear under ether. Even the exact location of the pylorus becomes a subject of speculation. Nevertheless, there are several things of which we are grossly ignorant, which can only be cleared up by careful observations of the surgeon. For example, the causes of duodenal dilatation, the basis of small irregularities of the cap, displacements of the pylorus, etc. The fact that only a small fraction of these cases come to operation, makes it all the more imperative that these relatively insignificant and neglected details be carefully studied.

DISCUSSION.

DR. A. WALTER HEWLETT: I have recognized a number of our old patients in the plates shown by Dr. Van Zwaluwenburg. X-Ray examinations of the digestive organs require good apparatus and good technic, and in addition an expert interpretation of the findings. For this reason this branch of diagnosis is falling into expert hands. I would like to say that in my department we find Dr. Van Zwaluwenburg's examinations of great assistance. At the onset of his work we were often skeptical as to the value of such examinations, particularly when they gave different results from those ob-

tained by our older methods, but as time has gone on we have come to place a high value on the X-Ray pictures. In two cases in which patients with gastric ulcer were advised by Dr. Van Zwaluwenburg to have surgical treatment we tried medical treatment but found it unsuccessful. X-Ray examination of the stomach has proved of the greatest value in cases of suspected gastric ulcer. You all know that the surgeons have been insisting for some time that many cases of gastric ulcer go for long periods of time under diagnoses of dyspepsia, hyperacidity, etc. Even with this fact in mind, it is not easy to recognize many cases of ulcer by the usual clinical investigations and in suspected cases the X-Ray examination may establish the diagnosis. Deformities of the pyloric portions of the stomach or duodenum may thus be demonstrated and even though the cause is not ulcer the symptoms are shown to be due to organic rather than to functional causes. In only one case thus far has the X-Ray caused us to advise operation when no organic cause for the symptoms was found by the surgeons.

DR. C. G. DARLING: I have been very much interested in Dr. Van Zwaluwenburg's paper because I have confirmed his diagnosis in so many cases. It is my purpose at all times to do team work in this line. As a matter of fact, I offer him one of the two methods of confirming his methods, either by operation or autopsy, and sometimes both. Occasionally I make a mistake, as at the time to which Dr. Hewlett refers when I refused to find sufficient pathology to confirm his diagnosis.

The work which Dr. Van Zwaluwenburg is doing in this particular line of stomach examination is of great importance, because it is getting us away from the old method of exploring without definite diagnosis, calling these examinations explorations rather than getting all the combined evidence which we might obtain to make a correct diagnosis to give some very good reason for operating. We find that in a number of our recent cases that this has been of very great assistance in enabling us to explain or carry out our operations to a proper end. When we have the clinical findings from the medical laboratory, when we have the findings from the X-Ray department, and combine these two, it is very helpful on many occasions in deciding whether this is an ulcer and should be treated as an ulcer at operation, or whether it closely approaches malignant disease, or is actually malignant at the time of operation. Because, after all, we must decide many cases upon these findings. The reason for this is that the excision of ulcer or pylorotomy carries with it a larger percentage of deaths than mere gastroenterostomy, whether these operations be done for the excision of cancer, or whether it is done for a suspected beginning cancer. I might cite a number of cases to prove these points. There will be many cases in which we need all the help that we can get to enable us to do the proper operation.

Dr. Van Zwaluwenburg, unfortunately, is not in a position to ask the questions and receive the de-

sired information which he would so much like to have in carrying out his work. I would suggest in all of these cases that come to operation, that Dr. Van Zwaluwenburg send in a written list of questions, and we will try to answer them as best we can, so as to co-operate in every way. That is what will make for greatness in our work, the co-operation in all departments—each and every one of us having the help of the other.

DR. VAN ZWALUWENBURG: I feel very grateful to Dr. Hewlett and Dr. Darling for endorsing the work I have attempted, and particularly for the confession of Dr. Hewlett that at first he was skeptical. I realized it at the time, but I am pleased to have him admit it.

As far as the co-operation of the surgeon and my department is concerned, I feel that just at the present time it is almost out of the question for us to get sufficiently close, because the surgical department is so insufficiently manned in the office. These things are clerical matters and the surgical force is overworked. It has been suggested that a form be printed and the surgeons fill it out as to their findings. If I could feel certain that that could be done without too great a sacrifice in the surgical office, I would be very glad to do it. It is more intimate information that we need, however.

I want to explain one more thing, and this is where we differ to a great extent from other radiographers. Almost every other radiographer requires that the clinical history be sent down with the patient. In our work we have preferred to be left ignorant. That is a very much more severe test of the method than most people are willing to give it. We prefer to put it to that test and make our diagnosis simply from the radiographic findings. It must be remembered also that we don't pretend that our diagnosis is final, but that our method is one that must be considered with others. Our diagnosis is only a tentative one, and is based upon the interpretation of the purely objective findings.

PRESENTATION OF A CASE OF DERMATITIS HERPETIFORMIS.

(From the Clinic of Dermatology and Syphilology, University Hospital, Ann Arbor, Michigan.)

JOHN H. STOKES, M.D.

The patient exhibits a very striking eruption easily visible in its grosser features from all parts of the room. I shall describe it objectively. This man's eruption in the first place has a peculiar distribution. You can see that the eruption is practically limited to the extremities, aside from slight involvement over the sacral region. In the first place the essential lesion on close examination is seen to be a rather large vesicle. The second feature that enables us to make a diagnosis is the fact that these vesicles are grouped; and the third feature which assists us to a diagnosis is the very apparent hyper-

pigmentation at the sites of old lesions. The fourth significant feature, is excoriation from scratching, showing that the man must have had a severe pruritus. A number of the lesions are crusted. The larger crusts represent really groups of smaller confluent lesions. You will notice that the arm pits are free. The genital region is also practically free. There is almost nothing around the waist, and his mucous membranes are entirely clean. Summarizing then, we have the picture of an eruption which is largely localized to the extremities, and the essential lesion being a vesicle, the essential configuration a grouping of vesicles, with residual hyperpigmentation and evidences of severe pruritus.

The first thing I considered when I saw this man was a neglected case of pediculosis vestimentorum, or scabies. As soon as I saw that he was a man of fairly clean habitus, I turned my attention to other things, and noticed at once the peculiar localization and grouping. It is characteristic of dermatitis herpetiformis, a rather uncommon dermatosis. I think we have seen about three of these cases in the last two years. This one is the most typical case of all.

Pemphigus might be considered from the oozing areas. It is, however, associated with many more constitutional symptoms than this man shows. It is distributed on the trunk, does not give rise to hyperpigmentation and there is no special tendency to grouping.

The next thing to be considered is exudative erythema, in which bullae of almost any size may develop, in which grouping may be exhibited, but is not the rule; in which there is much more marked erythema. The history assists us in eliminating this. The grouping is also much too striking a feature here.

This patient is shown as a classical picture. As a rule typical dermatitis herpetiformis is not very hard to recognize. Atypical cases present greater difficulties. Dermatitis herpetiformis is accompanied by little or no constitutional disturbance. The man is in excellent health and gives a history of previous attacks. This is important in the diagnosis of dermatitis herpetiformis. Every man usually has a first attack of the disease, but that occurs early in adult life. This man's first attack appeared about six years ago, less extensive than the present, involving only the knees.

The etiology is unknown. The favorite refuges for ignorance have been evoked in explanation. A certain number of observers consider the condition a neurosis. Another group

maintains that it is of toxic origin. These cases usually exhibit an eosinophilia. This man is an interesting exception, but probably does not exhibit it because of the late stage of the eruption. The eosinophilia may run as high as 25 per cent. Generally it is about 4 per cent. The histopathology favors toxic disturbance. So far as I know, there are no neurotic conditions in which eosinophilia occurs. The eosinophilia occurs also in the local lesions. Lesions in the mouth may occur in these cases.

The treatment is of a good deal of interest. This is one of the conditions in which arsenic is a sovereign remedy, at least in the acute attack. At the same time, it must be recalled that while the immediate prognosis is fairly good, the disease is resistant and capricious. You can predict almost with certainty that this man will have relapses; but at the same time, under vigorous arsenical medication you can clear him up temporarily. The method by which we administer arsenic is of interest. This man is receiving injections of sodium arsenite subcutaneously in 4 per cent. solution with 1 per cent. phenol as preservative. It must be given deep into the tissues. It usually acts with remarkable rapidity. The pruritus disappears immediately. We can assure this man that his general health will be but little affected by the disease and that prompt treatment at the beginning of an attack will usually clear him up entirely. Local treatment is limited to the use of phenol as an anti-pruritic. We are also using autoserum, a form of therapy at the present time resting entirely upon an empirical basis. It is being tried as a pot shot in everything that itches. I have seen one or two reports of its use in dermatitis herpetiformis where it was rated as valueless.

The differential diagnosis from eczema is mentioned in some texts. The grouping, however, is too characteristic in this case to make this a differential possibility.

DISCUSSION.

DR. J. A. ELLIOTT: In the past six months, I have seen about ten cases of dermatitis herpetiformis. The grouping of the lesions in this case has been characteristic; however, many of them have become confluent, thus destroying the characteristic appearance. In the early stages of the disease associated with the eosinophilia there is invariably found an indicanuria which strengthens the theory of a toxic etiology. Later, however, both the eosinophilia and indicanuria may disappear. I have seen these cases clear up rapidly on a vegetable diet and general hospital care without arsenic. One case recurred four times in six months, each time returning to the hospital with a profuse eruption after remaining

at home only a few days. I think arsenic in any form is of great benefit in these cases, especially injections.

A complication that may arise in these cases is acute nephritis. In one instance I saw an albuminuria where the albumin reached such a high percentage that it could not be read by the Esbach method.

DR. STOKES: I mentioned that this man has no eosinophilia. Several men have pointed out that eosinophilia in nearly all dermatologic conditions is

a function of the disease. It may not be present in the early or late stages. It is usually after the lesions have reached their fullest development. This man has had this condition for about five months and it has been rather stationary at the present time. That may explain why at the present time he hasn't any eosinophilia; though there is no reason to believe that there was none early in the case. We have not completed our histopathologic examination, so I cannot say that there is no local eosinophilia.

PROPAGANDA FOR REFORM.

Hayden's Viburnum Compound.—This preparation, according to the advertising matter, depends for its action on *Viburnum opulus*, *Dioscorea villosa* and aromatics. The label admits the presence of 50 per cent. alcohol. Its use is advised in the treatment of female disorders, cramps, etc. A report of the Council on Pharmacy and Chemistry states that, even if it contains the ingredients claimed (it has been reported that *Viburnum opulus* has not been on the market for years), the therapeutic action of the preparation depends almost entirely on the alcohol which it contains. The Council fears that the use of this preparation may initiate the alcohol habit in girls and women and publishes its report as a protest against its use (*Jour. A.M.A.*, Jan. 23, 1915, p. 359).

Echitsia, Echtol and Echitone.—*Echitsia* (Wm. S. Merrell Chemical Co.), *Echtol* (Battle & Co.) and *Echitone* (Strong, Cobb & Co.) are proprietaries, each of which has echinacea as its chief constituent. In 1909 the Council on Pharmacy and Chemistry reported that the extreme and extravagant claims which are made for this drug are not supported by evidence. Echinacea is not often prescribed under its own name but is commonly employed in the form of proprietaries which in addition to echinacea contain other little used or obsolete drugs. To call attention to the unwarranted and often absurd claims which are made for this class of mixtures the Council reports on three of these: *Echitsia* which is said to be made from echinacea, wild indigo, arbor vitae and poke root, *Echtol*, which is said to be made from echinacea and arbor vitae and *Echitone* which is stated to represent echinacea, pansy and blue flag. In each case it was found that most or all the extravagant and impossible claims which have been made for echinacea were made for the extravagant claims were made for the additional proprietaries and that in addition almost equally drugs contained in them (*Jour. A.M.A.*, Jan. 2, 1915, p. 71).

Celerina, Aletris Cordial and Kennedy's Pinus Canadensis, Light and Dark.—As glaring instances of nostrums exploited to physicians on unscientific claims and false representations, the Council on Pharmacy and Chemistry has prepared reports on the products of Rio Chemical Co., namely, *Celerina*, *Aletris Cordial*, *Kennedy's Pinus Canadensis, Light* or *Abican* and *Kennedy's Pinus Canadensis, Dark* or *Darpin*.

In addition to 42 per cent. of alcohol *Celerina* is

stated to contain kola, viburnum, celery, cypridium, xanthoxylum and aromatics. There is no ingredient in *Celerina*, except the alcohol, that has any recognizable activity and the alcohol content is nearly as great as that of whiskey. The sooner it is realized that this preparation is essentially nothing but alcohol and bitters exploited under a fancy name, the better for the science of medicine and the public health.

In addition to 29 per cent. of alcohol, *Aletris Cordial* is stated to contain aletris, helonias and scrophularia. These drugs have been discarded as valueless by modern scientific medicine. In *Aletris Cordial* there is no ingredient capable of producing any other effect than the alcohol stimulation and such psychic effect as may be due to bitter taste. Yet physicians are asked to believe that "Probably no remedy is so uniformly successful in the prevention of threatened miscarriage as *Aletris Cordial*, Rio." Alcohol being the essential constituent of *Aletris Cordial* and the amount being high enough to promote the formation of the alcohol habit, the recommendation to administer it during pregnancy and to young girls is dangerous and an outrage.

Kennedy's Pinus Canadensis, Dark, recently renamed "*Darpin*" and *Kennedy's Pinus Canadensis, Light*, recently renamed "*Abican*" are of interest chiefly because of the unwarranted claims which are made for them. The "*dark*" preparation appears to be some sort of a tannin-bearing extract. The "*light*" preparation appears to be a sulphate of zinc-alum injection. It is devoid of tannin and is not an extract of *pinus canadensis* as claimed. A discussion of the claims made for these preparations is superfluous. It is enough to mention that they are recommended in such diseases as albuminuria, fetid perspiration, gonorrhea, uterine hemorrhage and leucorrhea (*Jour. A. M. M.*, Feb. 13, 1915, p. 606).

Salesthyll and Sal-Hyl.—*Salesthyll*, a liquid marketed in capsules, is stated to be the menthyl ester of methyl salicylate. *Sal-Hyl* is stated to be an ointment of *Salesthyll*, but the exact composition is not disclosed. *Salesthyll* was submitted to the Council on Pharmacy and Chemistry with the claim that it had the properties of salicylates but to be more efficient. The evidence to substantiate the therapeutic claims was found to be inconclusive and untrustworthy. Being similar to "*sal-ethyl*," described in N. N. R., the names *Salesthyll* was held objectionable. The Council refused recognition to these preparations (*Jour. A. M. A.*, Feb. 20, 1915, p. 684).

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COUNCIL ON PHARMACY.
NEW AND NONOFFICIAL REMEDIES.
New and Nonofficial Remedies is ready for distribution by the Council on Pharmacy of the A.M.A. By sending 50 cents to the A.M.A., 535 N. Dearborn St., Chicago, a copy will be sent you by return mail. The book contains 426 pages.

The present edition of New and Nonofficial Remedies marks the tenth year of the existence of the Council on Pharmacy and Chemistry. Since 1907, when it was published as a modest pamphlet, New and Nonofficial Remedies has grown to a volume of 426 pages. It may be fairly said to contain descriptions of all the worth-while proprietary and non-official remedies now on the market in the United States. Further, it is the only book or publication which contains comprehensive and trustworthy discussions of the composition, source, properties and dosages of proprietary remedies. As every physician should be informed about new remedies, even if he has little use for them, a copy of the book should be in the possession of all. It is not too much to say that a physician who is not familiar with New and Nonofficial Remedies is doing his full duty neither to himself and his profession, nor to his patients.

In addition to the individual descriptions of drugs and preparations, the book contains critical discussions of the various classes of preparations. These general discussions compare the

value of the newer remedies with the established drugs which they are designated to displace. Thus the book affords an authoritative review of therapeutic progress.

The book contains, as a supplement, a list of references to discussions of articles not admitted to New and Nonofficial Remedies which have appeared in *The Journal of the American Medical Association*, in the Annual Reports of the Council on Pharmacy and Chemistry and in the Reports of the A.M.A. Chemical Laboratory. This list of references enables physicians readily to obtain information in regard to the many nostrums which are exploited to the medical profession.

SYPHILIS.

This issue contains the several papers that were recently presented in the symposium before the Wayne County Medical Society on: The Present Status of Syphilis. Through them the reader will receive a modern viewpoint that is not contained in text-books. There will also be revealed to him the vast amount of research work that is being done on the subject and a practical application of the tenable conclusions that are being accepted.

Varney states that syphilis or the results of syphilitic infection exists in one out of twenty people. Cabot, in his recent second volume on Differential Diagnosis, reports that in 9112 cases of glandular involvement or diseases 5145 were syphilitic origin. In 932 cases of abdominal ascites forty-two were due to syphilis. Varney's contention is thus upheld by Cabot's statistics.

This, to us, seems to be ample reason for physicians to familiarize themselves more fully regarding the prevalence of this infection and the modern theories and conclusions that are being established. The intense interest the subject has awakened in the comparatively few recent years has created a revamping of opinions regarding syphilis and is the means of presenting to the clinicians new and proven theories regarding the etiology and pathology of many of the former unexplainable phenomena that presented in certain types of disease and altered physiological function. The work of the laboratory and investigators is rapidly asserting their influence and casting beams of scientific sunlight into the subject so that its darkened shroud is being penetrated and as we are enabled to view it in the increasing light of this new information our ability to combat its ravages is strengthened.

Knowing that in one out of every twenty individuals syphilis is a possible etiological factor it behooves the physician to take cognizance thereof and to govern his plan of treatment accordingly. We must recognize syphilis as an important and frequent possibility. Our treatment will be ineffectual if steps to counteract its destructive processes are not taken. Wassermann tests must be secured more frequently. More information must be disseminated among the public regarding this disease, its mode of acquirement as well as transmission. On the whole syphilis and the results of syphilis require greater consideration and the treatment to produce a cure must be instituted more vigorously. Those afflicted are entitled to receive more careful attention from the profession and they are not to be allowed to drift into the hands of questionable specialists or be considered as undesirable patients. Our hospitals must provide better facilities to care for the unfortunate victims of this prevalent disease.

We are in the hopes that these papers will arouse a studious interest in all the phases of syphilis and its treatment.

AN EXPLANATION.

In the November issue of the *Journal* a paper that I read before the Society at Lansing in September, 1914 was published.

My views as to the origin of malpractice actions were set forth, and by way of illustration I discussed a case which had been successfully prosecuted against a doctor in this state. The point I wished to prove was the necessity of a doctor's evidence to obtain this result, and I referred to the testimony of Dr. Hulst of Grand Rapids, in the case under discussion. Continuing, I stated that attorneys generally knew in advance the testimony a physician would give, before placing him on the stand as a witness, and that the compensation to be received by the doctor was frequently fixed before the trial. I had in mind certain cases I had tried where this fact had appeared on the cross-examination of a doctor.

In this connection it never occurred to me then that anyone might construe what I had said as any way applicable to Dr. Hulst. His professional reputation and loyalty to the medical profession, was known to me, and I felt

must be to the medical profession generally in this State. However, it has since occurred to me that there might be some who would be misled, and to prevent any possible doubt, I wish to explain through these columns, the facts concerning his presence as a witness in this case, which I have only recently learned.

Dr. Hulst radiographed the arm of the patient treated by the defendant doctor, but before any suit had been started, and with no knowledge on his part that a malpractice action was contemplated. Later a suit was commenced, but Dr. Hulst did not even know this fact, and when requested to appear in court to explain the picture, refused to go, and then was compelled to by a subpoena. He did not know whether he had been subpoenaed by the attorney representing the plaintiff, or defendant, and of course had made no arrangement for a fee as an expert. These facts I have both from Dr. Hulst and from attorney for the plaintiff.

No one acquainted with the standing of Dr. Hulst in the state would ever think he would give an opinion in advance to an attorney, or arrange for a fee for giving testimony against any doctor in a malpractice action. In fact I almost feel that I should apologize to him for seeking permission to have this statement published. It might be taken as an assumption that my remarks have been interpreted as having some application to him, even though there was most emphatically no such intention. However, I feel that I may unintentionally have done Dr. Hulst some injustice, and for that reason the Editor has cheerfully given me the use of the columns of the *Journal*, that there may be no doubt of the real facts and my own views.

HERBERT V. BARBOUR.

Editorial Comments

The Journal has been discontinued to all whose dues remained unpaid on March 25th. If someone happens to state that he hasn't received his April *Journal* kindly remind him that failure to do so was occasioned by the above reason.

The Journal will gladly make train reservations for any who desire to attend the A.M.A. meeting and San Francisco Exposition in June.

Michigan should be well represented at that meeting. It is desired that all intending to go should notify this office.

The Society News of each issue contains some very interesting reports of county society meetings; oftentimes synopses of papers read. Members are urged to interest themselves in this department and then institute the ideas and suggestions there found in their local meetings. Your local organization and your officers are entitled to this co-operative effort in raising the standard and value of your gatherings.

Have you noticed the new advertisements appearing in this issue? The Battle Creek Deformity Appliance Company of Battle Creek is a reliable concern meriting your patronage; send them an order. The Macomb County Society is doing a highly commendable work in elevating the professional work in connection with the Mt. Clemens mineral baths. Write them for full information. It costs you but a cent to secure valuable information. For physicians in the southern part of the state we commend the Fort Wayne Medical Laboratory. The Hope Hospital of Fort Wayne is another ethical institution soliciting your patronage. In addition there are those who have given your *Journal* their patronage for months and years. They are all entitled to your preference and purchases. Will you not help us to demonstrate the value of our publication by entering into business relationship with the advertisers?

Is gynecology rapidly losing its right to being designated as a separate branch or specialty of the profession? We solicit opinions upon this question for publication in these columns. May we have your opinion?

For argument's sake we are holding that gynecology should no longer be a distinct specialty but that it should be merged into the field of obstetrics or abdominal surgery. Amputation of the cervix, curetage, removal of uterine polypus, plastic cervical and perineal repair, vaginal Cesarean section, vaginal hysterectomy and colpotomy comprise the field of gynecologic practice today. As for local treatment, the application of silver nitrate for cervicitis and its discharge and the local treatment of venereal in-

fection cover the methods of any value. The foregoing do not merit a special division and our new knowledge of pathological conditions of the female generative organs has brought about the abolition of former recommended practices.

True, there remain the uterine, tubal and ovarian conditions, but when we enter the abdomen necessity oft compels the gynecologist to overstep the bounds of his specialty. The ovarian, tubal or uterine operation completed it is not right to close the incision and allow a diseased appendix or gall bladder involvement go uncared. Oftentimes the examining hand detects gastric or intestinal lesions demanding correction. The gynecologist must and should be able to meet any of these or other abdominal conditions. As advanced, in so doing he is treading into a new domain beyond the pale of his specialty. Should he be permitted to do so or should his specialty be reclassified?

The suggestion will undoubtedly be advanced that the word abdominal be added and the specialty be known as that of Gynecology and Abdominal Surgery. Immediately we stumble into the objections of the general surgeon who holds that the abdomen, exclusive of the female pelvis, is part of his domain. That bone, orthopedic surgery, the brain, proctology and genitourinary surgery, have been requisitioned from his field and now to take from him the abdominal work would leave the general surgeon but a small field. Thus objection is met with on that side.

The suggestion is also made that the words "gynecology" and "gynecologist" be abolished and to substitute therefor "abdominal surgery" and permitting it to include the female generative organs. Right here our gynecologists rise up in indignant attitude and object to depriving them of the term which they jealously prize by reason of the years they have devoted to their work and the making of a name for themselves. While admitting that gynecology means and embraces but little they are unwilling to relinquish the term.

Thus on either hand he who seeks for a re-vamping of the lines of abdominal and pelvic work is met with objections and protest. What the outcome will be we cannot prognosticate. Certain we are that the near future will witness a definite change. One group will have to

either relinquish some of its work or another group will have to drop an appellation it has been recognized by for many years.

These are but suggestions. A discussion of the subject will prove interesting. May we have a goodly number of concise discussions for publication?

The Michael Reese Hospital, Chicago, Ill., after a series of forty tests, has announced that they will apply "twilight sleep" only with the written consent of the mother, in which she absolves the hospital from any responsibility of injury to either herself or child.

The reason given for this precautionary measure is that the Michael Reese staff has already tried "twilight sleep" exactly in accord with the Freiburg method in over forty cases and is not impressed with its desirability.

The Abilena Company in their advertisement offer to send you samples of their product. Please drop them a card conveying your request.

For ordinary pharmaceutical and therapeutic uses, there seems to be no reason why Wesson oil cannot replace olive oil. The dietetic value of the two oils are essentially the same. Analysis of cottonseed oil and olive oil have been made again and again. In general it has been found that the two oils are very similar in composition. Authorities also state that cottonseed oil is just as nutritious and wholesome as olive oil.

The objection to cottonseed oil was formerly raised on account of its peculiar taste and odor. This objection has been overcome by Dr. David Wesson and as a result of his experiments there is now on the market a tasteless and odorless cottonseed oil of equal value in every respect to olive oil. This oil is known as Wesson oil. There are numerous brands of cottonseed oil on the market, but they are not odorless or tasteless as is the Wesson oil.

The value of Wesson oil being on an equal basis as olive oil there cannot exist a reason why this oil should not replace olive oil in medicine and surgery and its use become universal. Its lessened cost (one third), with a high standard of value is an additional reason for its more universal use, especially in institutions that consume large quantities.

Custom and habit is responsible in a great measure for the demand made for olive oil. Many there are who are unaware of the value of Wesson oil and by reason of their lack of this knowledge they continue in the old habit track of using olive oil.

In medicine Wesson oil may be employed wherever olive oil has been used with identically the same results and with lessened cost to patient or hospital. As a menstruum or suspensory agent it may be applied locally or injected subcutaneously. In subcutaneous use it is less irritating than olive oil. In all enemata, where an oil is used, Wesson oil gives universal satisfaction and is therapeutically effective. Its ease of sterilization, freedom from becoming rancid, and soothing properties are bound to create a demand for Wesson oil and cause it to supplant olive oil that is made expensive by reason of its import duty.

Our reader's attention is drawn to Wesson oil so that they may investigate its merit.

The Fiftieth Annual Meeting of the Society, the members will recall, will be held in Grand Rapids on August 31, and September 1 and 2. The Kent County Medical Society has already a committee of sixty-five men at work preparing for this meeting, and every effort will be bent to make it a most successful meeting.

The meeting place will be the Fountain Street Baptist Church. Accommodations in the edifice are sufficient as well as ample to hold all the meetings and exhibitions under one roof. There are four large rooms capable of seating 200 to 500 people that will be utilized for section meetings. The general sessions will be held in the main auditorium. In addition there are smaller rooms available for committee meetings, registration, rest, etc. This arrangement will greatly enhance the success of the meeting. We want the attendance to be 1500 and to secure it you must plan to arrange your plans so as to be present. Hotel accommodations will be ample and no fear need be had of crowding.

Several of our advertisers ask you to write for literature or samples. Will not every member please observe this request and get in touch with these firms that make your *Journal* possible? Do it today, just drop them a card.

Some automobile tires give very fine service when given but ordinary use but when subjected to service over rough and rugged roads, worse than the ordinary, or over hard flinty streets they very often go to pieces. The best tires for most severe service are *Double Service Tires* which are the product of the *Double Service Tire and Rubber Co.* of Akron, Ohio. These tires are made with a double thickness of tread which imparts on an average of 12 plies of fabric and one inch of service rubber. This is like putting an extra sole on a shoe. The results in service being the same in comparison. This tread is so thick that punctures are practically impossible yet the tires contain the same air space, and the same pressure, as is used in any other makes so their resiliency and riding qualities are the same. Owing to the excellent method of manufacturing and selling adopted by the *Double Service Company* these tires sell for less than standard regular made goods yet are guaranteed 7,000 miles service. Please refer to our advertising pages where will be found additional information and then will you not get in touch with the advertiser? Please lend us this co-operation.

Deaths

Dr. Orris E. Herrick, practicing physician in Grand Rapids for thirty-five years and a resident of the city for a still longer period, died of apoplexy at the DeVore sanitarium Friday morning, March 5th, 1915.

Dr. Herrick was born at Charleston, N. Y., March 30, 1848, and was graduated from the Albany Medical College in 1871, and from the Bellevue Hospital Medical College, New York, in 1873. During a portion of 1872 he was assistant gynecologist to the Albany hospital. He was a member of the Michigan state board of health in 1875, professor of gynecology in the Cincinnati Medical college in 1878, and editor of the *Obstetric Gazette* from 1878 to 1882.

The Kent Medical Society, of which Dr. Herrick was an honorary member, attended the funeral services in a body. He was also an honorary member of the Michigan State and the New York State medical societies.

Dr. J. B. Griswold, well known as a surgeon in Grand Rapids for many years, prominent as a medical aide through the Civil war, formerly state department commander of the Michigan G. A. R., and senior vice commander-in-chief of the National G. A. R., died at his home March 9th, following a two months' illness.

He was born in Vermontville, Mich., June 21, 1842. He entered the Michigan Agricultural College at Lansing in 1859, but remained only two years, enlisting as a member of the hospital corps attached to the Second Michigan cavalry in 1861. He was discharged in 1862 on account of illness. He then commenced the study of medicine and attended courses of lectures during 1863 and 1864 at the University of Michigan. In 1864 he re-entered the service as assistant surgeon of the Fourth Michigan Infantry; was commissioned regimental surgeon in January, 1866, and served in that capacity until honorably discharged in May, 1867.

Dr. Griswold was medical inspector during part of his service of the department of San Antonio, Texas. He was graduated at Rush College, Chicago, in 1867. He practiced medicine until 1873 at Taylor's Falls, Minn., from which time until his death he was a resident of Grand Rapids. He was city physician from 1876 to 1877 and was elected alderman of the fourth ward in 1880. He was a member of the Grand Rapids Academy of Medicine, Michigan State Medical Society. He was also a member of the Grand Rapids Board of United States examining surgeons for pensions. At different times he was also consulting physician at Butterworth and U. B. A. hospitals.

Dr. Griswold was very prominent in G. A. R. circles and last September during the National G. A. R. encampment in Detroit he was named senior vice commander-in-chief of the National G. A. R.

Dr. Wm. J. Ketcham of Dowagiac died Feb. 20. Death was due to pneumonia.

Dr. Ketcham was born in New York City in 1850. His early education was received in the East and in June, 1875 he was graduated from the medical department of the University of Michigan. He practiced in Manton and later went to Decatur, and for the past thirty-five years has been located in Dowagiac.

Dr. Gilbert V. Chamberlain, one of the oldest and best known physicians of Flint, died March 18th. Dr. Chamberlain was a member of the Genesee County Medical Society, Michigan State Medical Society and the American Medical Association. In the year 1892 he was President of the State Society. The doctor had practiced in Flint for thirty-one years. He was graduated from the Detroit College of Medicine in 1874.

State News Notes

For Sale—Static Machine, Nebulizer, etc. Very cheap. Address John S. Hamaker, Administrator, Mendon, Mich.

For Sale—Drug store and practice in a town in Southern Michigan. Good farming district. Near-est competition eight miles. Reason for selling explained upon inquiry. Address Drug Store, care The Journal.

The Interstate Association of Anesthetists will hold its organization meeting in conjunction with the Ohio State Medical Association in Cincinnati, Ohio, May 4-5, 1915, at which time the following elaborate scientific program, devoted exclusively to anesthesia and analgesia, will be presented.

Forword, Robert Carothers, Councillor 1st. District O.S.M.A., Selection of the Anesthetic, Emmett F. Horine, Louisville, Ky.; Nitrous Oxid in Obstetrics, Arthur E. Guedel, Indianapolis, Ind.; Blood-Pressure under General Anesthesia, E. I. McKesson, Toledo, Ohio; Conductive Analgesia for Intraoral Operations, Hugh W. MacMillan, Cincinnati, Ohio; Alkaloidal Medication in Relation to Anesthesia and Analgesia, Isabella C. Herb, Chicago, Ill.; Anesthesia for Brain Surgery, Charles K. Teter, Cleveland, Ohio; Use of Music during Local Analgesia, W. P. Burdick, Kane, Pa.; Magnesium Sulphate Narcosis, D. D. DeNeen, Cincinnati, Ohio; Ethyl Chloride Anesthesia, R. A. Rice, Columbus, Ohio; Intravenous Anesthesia, C. L. Candler, Detroit, Mich.; Preparatory, Operative and Postoperative Precautions for Hazardous Anesthetic Risks, Moses Salzer, Cincinnati, Ohio; Vapor Anesthesia for Intraoral Surgery, Paul R. Coble, Indianapolis, Ind., Local Anesthesia for Hernia Operations, Charles T. Souther, Cincinnati, Ohio; Surgical Mortality from the Standpoint of the Anesthetist, H. W. Kearney, Washington, D. C.; Nitrous Oxid-Oxygen Analgesia for Dentistry, Edward S. Barber, Chicago, Ill.; Posture and Mus-

cular Relaxation as Factors in the Newer Conception of Shock, Willis D. Gatch, Indianapolis, Ind.; Spinal Anesthesia, John Overton, Tulsa, Okla.; Acapnia, E. M. Sanders, Nashville, Tenn.; Local Analgesia for Nose, Throat and Larynx Operations, Myron T. Metzenbaum, Cleveland, Ohio; Anesthesia, a Full-fledged Specialty, H. W. Long, Louisville, Ky.; Anesthesia, Anesthetists and Workmen's Compensation Laws, F. H. McMechan, Cincinnati, Ohio; Intratracheal Anesthesia, B. Merrill Ricketts, Cincinnati, Ohio; with Demonstration of a Portable Field-Apparatus by Major Allie W. Williams, U. S. A. Washington, D. C.

Headquarters, Assembly Room and Exhibits will be in the New Hotel Gibson, in which all the Sections of the Ohio State Medical Association will also meet. An informal organization dinner will be served on the evening of May 4, after which the visiting anesthetists will be entertained at a Smoker by the Local Entertainment Committee of the Academy of Medicine, headed by Dr. O. E. Smith. Visiting ladies will be entertained by Dr. Nora Crotty and her committee at a reception and theater-party.

Anesthetists, surgical and dental, as well as interested surgeons, research-workers and general practitioners who wish to participate in the Proceedings are cordially invited to attend. For further information and dinner reservations address

F. H. McMECHAN, M.D., Secretary.
1014 Wesley Ave.,
Cincinnati, Ohio

The Supreme court in deciding that chiropractors must take out licenses and be registered before they attempt to practice medicine in Michigan, issued what looks like a sweeping opinion on healing without drugs.

D. J. Healey, a chiropractor at Belding, was arrested for the illegal practice of medicine, having failed to be registered by the state board of registration in medicine. Circuit Judge Frank D. M. Davis of Ionia dismissed the charges on the ground that the practice of chiropractic did not come within the meaning of the state law compelling the registration of all practicing medicine and surgery.

The Supreme court says that Judge Davis is wrong, and in saying so, in an opinion written by Justice Joseph H. Steere, comes close to laying down an ironclad rule regarding all healers in the state who do not use drugs, provided they hold themselves out to the public to cure ills of the human mind and body.

Justice Steere, and with him the entire court, holds that the expression "physicians and surgeons" covers all persons who advertise and hold themselves out to the public to cure ills of mind and body. This,

it would seem, takes in all sorts of the popularly known "drugless" healers.

A movement is afoot in Chicago to organize a most comprehensive graduate school of medicine and surgery. The school is to be known as the Graduate School of Medicine of Chicago. The organization committee is composed of: Drs. E. W. Andrews, J. B. Murphy, J. R. Pennington, D. P. Teter, W. A. Evans and Franklin H. Martin. Under the list of teachers already appointed we find the names of Ochsner, McArthur, Dorland, Abt, Case, Herzog, Evans, Brophy, Pusey and Murphy. We are aware that Chicago has the facilities as well as the clinical material for conducting a successful school for graduate work but it must be void of the "bickerings" and "factionalisms" that have heretofore been rather predominant in the medical fraternity of the Windy City.

Butterworth Hospital, Grand Rapids, has been placed under quarantine for sixteen days by reason of exposure of its inmates to smallpox from one of the visiting physicians who visited the institution while in the pustular stage of the disease. The quarantine will be lifted April 5. It is questionable whether such a stringent ruling was warranted by the health officer and general sentiment, though unexpected, tends to concede his over zealotry in quarantining the hospital.

Dr. Stewart L. DeWitt entertained the members of the Grand Haven and Spring Lake Medical Society March 11 at his home. Dr. DeWitt read a paper on "Blood Pressure." Those present were, Dr. C. E. Long, Dr. W. J. Presley, Dr. John N. Reynolds, Dr. Arend VanderVeen, Dr. W. S. Walkley, Dr. H. J. Cherry of this city and Dr. C. P. Brown and Dr. C. D. Mulder of Spring Lake.

On March 20th a notice was sent all members whose dues were not paid on that date as shown by our books. In the event that your dues had been paid to your local secretary on or before that date no attention is to be paid to our notice as your dues will be forwarded by the local secretary in due course and your membership continued in good standing. The notice is intended for those who were in arrears.

During the past month some 190 Detroit physicians have moved in and are now occupying offices in the new eighteen-story David Whitney Building on Woodward Ave. and Grand Circus Park. This building may now be termed the medical

center of Detroit. The new Kresge building on West Adams contains the offices of some sixty Detroit physicians.

A new laboratory for physiological, chemical and pathological analyses has been established in Grand Rapids and is known as the Grand Rapids Chemical Laboratory. Dr. Brotherhood, late of Clifton Springs, and formerly with Dr. George Dock is the managing director.

Governor Ferris has sent the names of the following doctors to the Senate as appointees on the State Board of Registration in Medicine: Hume, Owosso; Kinsman, Saginaw; Robinson Allegan and Warnshuis of Grand Rapids.

Dr. W. J. Mayo of Rochester, Minn., addressed the Wayne County and Kalamazoo societies during his visit to Michigan. His address that was delivered at the Founder's Day Exercises in Ann Arbor will be published in our May issue.

Dr. V. C. Vaughan, Sr. of Ann Arbor, delivered an address at a public meeting held in Pontiac on Feb. 26. His subject was, The Prevention and Eradication of Disease.

Dr. B. R. Schenck of Detroit is now located in the David Whitney Bldg. Dr. F. C. Kidner and Dr. H. M. Rich have also removed their offices to the same location.

Lapeer is planning to hold a "Health Week" beginning April 18th. General committees have been appointed and arrangements are practically completed.

Dr. R. H. Haskell of Ann Arbor has been appointed as Superintendent of the Ionia State Hospital for Criminal Insane.

Dr. George Reycraft of Petoskey has been seriously ill with pneumonia. He is reported as convalescing.

Plans for a new \$400,000 tuberculosis hospital in Detroit have been submitted to the Council by the architect.

Dr. R. B. Armstrong of Charlevoix has returned from Chicago where he had been doing some surgical research work.

The condition of Dr. T. M. Koon of Grand Rapids remains about stationary and he continues as a patient in a Minneapolis hospital.

Dr. F. E. Berge of Grand Rapids, has returned after an absence of eight months spent in post graduate work.

The health department of Battle Creek recently installed a complete laboratory in the city hall.

Dr. Gordon H. Yeo of Barryton has located in Big Rapids.

Dr. O. L. Ricker of Cadillac has returned after a month's post graduate work in New York.

Dr. B. H. McMullen of Cadillac is in California on a vacation tour.

Dr. A. F. Kingsley of Battle Creek has resumed practice after his recent illness.

Dr. Charles W. Hitchcock of Detroit has removed his offices to the David Whitney Bldg.

County Society News

GRATIOT COUNTY.

At the February meeting of the Gratiot County Medical Society Dr. Udo J. Wile of the University of Michigan gave a clinic on diseases of the skin. Many said it was one of the most profitable meetings they had attended.

This month we are going to have Dr. C. D. Camp of the University of Michigan.

E. M. HIGHFIELD, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

PROGRAM

Wednesday, February 24, 1915.

1. Some General Considerations which Influence the Advisability of Surgical Treatment.

Dr. W. J. Mayo, Rochester, Minn.

March 10.

1. Surgical Clinic in Van Deusen Hospital at 10 a. m. Dr. R. E. Balch, Kalamazoo.

Luncheon at 12.30 p. m. Amusement Hall in Chapel.

2. Neurological Clinic in Chapel at 1:30 p. m. by the Staff of the Kalamazoo State Hospital.

EVENING PROGRAM.

Report of the Michigan Eugenics Commission with Lantern Slide Demonstration.

Dr. Albert M. Barrett.

(Director of the State Psychopathic Hospital, Ann Arbor. Chairman of the Michigan Eugenics Commission.)

The morning and afternoon program and the

luncheon was for physicians only. The Kalamazoo Academy of Medicine has been instrumental from time to time to enlightening the public upon medical issues of vital interest and importance to the public. These questions have to do directly or indirectly with sanitation, garbage disposal, water supply (municipal and private), milk inspection, proper housing, eugenics, prevention of insanity and feeble-mindedness, venereal prophylaxis. All of these are some of the medical problems that have been brought to public notice.

Two years ago a law was passed by the State Legislature which is as follows:

ACT NO. 150 OF THE PUBLIC ACTS OF 1913.

COMMISSION CREATION OF, DUTY.

SECTION 1. There shall be a commission created to investigate the extent of feeble-mindedness, epilepsy, insanity, and other conditions of mental defectiveness prevalent in the State of Michigan, and to make a study of the causes productive of these conditions.

WHO TO COMPOSE.

SECTION 2. This commission shall be composed of the following members: The Medical Director of the State Psychopathic Hospital at the University of Michigan, the Superintendent of Public Instruction, the Secretary of the State Board of Health, and the Secretary of the State Board of Corrections and Charities. The medical director of the State Psychopathic Hospital is herewith made the executive officer of the commission.

Tuesday, March 23, 1915. 1:30 p. m.

1. The Persistence of Spirochaetes in Hearts of Apparently Cured Cases of Syphilis. Lantern Slide Demonstration.

Dr. A. S. Warthin, Ann Arbor.

Professor of Pathology, University of Michigan.

Discussion opened by Dr. Eva Rawlings, Kalamazoo.

2. Leather Bottle Stomach.

Dr. Miles Porter, Fort Wayne, Ind.

Discussion opened by Dr. A. W. Crane.

KENT COUNTY

At the meeting of the Kent County Medical Society January 27, 1915, Dr. Arthur R. Elliott of Chicago read a paper on "The Problems of Nephritis in the Light of Recent Experimental and Clinical Research." This was a masterly exposition of the subject, given with a thoroughness and attention to detail which indicated an enormous amount of study and experiment. Dr. A. M. Campbell reported a case of so-called "twilight sleep," and Dr. R. H. Spencer showed an amputation at the shoulder with medico-legal complications. Dr. P. L. Thompson

and Dr. J. E. Meengs were elected to membership in the Society. After the meeting a luncheon and smoker was given at the Livingston Grill to Dr. Elliott and fifty-two members of the Society.

At the meeting Feb. 10, Dr. R. H. Spencer read a paper on "General Toxemias Following Infection of the Prostate."

On Feb. 24, Dr. R. J. Kirkland was elected to membership. Dr. B. R. Corbus reported three operative cases of peptic ulcer. Dr. Wm. Northrup gave a fifteen minute talk on "The Modern Clinical Laboratory," and Dr. Alden H. Williams a fifteen minute talk on "The Modern X-Ray Laboratory." Dr. W. E. Rowe read a paper on "Non-Operative Malignancy."

On March 10 a medico-legal evening was enjoyed, with Dr. Frank B. Tibbals and Mr. Herbert B. Barbour of Detroit as speakers. It was emphasized that physicians must do their part in avoiding malpractice suits. They must be up to date; they must not be negligent in any way, such as leaving splinters in a wound, etc. But, aside from these manifest considerations, unfriendly doctors are at the bottom of nearly every suit for malpractice. In the last five years, 120 suits have been started in Michigan against physicians. Of these, only one showed any evidence of malpractice while 119 were clearly trumped up for the purpose of blackmail. Exercising ordinary knowledge and care, a physician is not committing malpractice even though he occasionally makes a mistake—as who of us does not? If we always looked at these cases in this way: from the point of view of the other fellow, few medical men would be found willing to give the support of their testimony against brother physicians in malpractice suits.

FRANK C. KINSEY, Secretary.

MACOMB COUNTY.

The medical profession and the business men of Mount Clemens are determined to bring their wonderful waters to the attention of the American public.

Two hundred of the prominent residents of Mount Clemens, including twenty-four members of the Macomb County Medical Society, met at the annual banquet of the Business Men's Association of the city on the evening of February 25.

There were speeches by some of the editors of the Detroit newspapers, and some of the medical journals of the middle west; and by prominent citizens of Michigan outside of Mount Clemens. Senator David Fitzgibbons of Port Huron presided at the dinner, and made a splendid oration, taking for his subject the opportunity that Mount Clemens now has in view of the European war,

and the prohibited bath areas of Germany, France, Austria and Switzerland, to take the place of these famous resorts as the great American bath cure.

Dr. John A. Hornsby, editor of *Modern Hospital* of Chicago, addressed the audience on the subject of the scientific necessities of the modern bath cure. Dr. Hornsby insisted that there is no spring or water-cure in this country that is properly equipped to do the scientific work to take the place of the cures of Europe; he said the baths of the United States and Canada contain everything in the way of curative agencies that the European springs contain; but that, up to this time, the European water-cures contain another factor, viz.: a group of scientific men around each of the cures to whom the Canadian and American physicians could send their patients in the expectation of scientific service, both in diagnosis and in treatment. He insisted that the bath did not always mean that the patient must take a "cut-and-dried" routine bath,—that there were conditions of the patient that demanded a careful diagnosis, and that called for a special prescription, whether it be baths, or some form of massage, special diet, exercise, rest or other treatment.

At the end of the evening the new Board of Directors of the Business Men's Association was announced, and in a preliminary meeting it was agreed that Dr. Hornsby's ideas would be given immediate and prompt attention; and that a scientific laboratory should be immediately equipped to do the necessary work for the medical men in the community, upon which these, in turn could rely for diagnosis; and it was further agreed that special dietaries should be equipped in a number of hotels and "baths" that would make it possible for the doctor to get precisely what he wanted for his patient.

The dinner was a most impressive occasion, participated in by some of the leading men of Michigan; and it was decided to reach out at once to place Mount Clemens at the head of the curative institutions of this country. It was agreed that in order to do so, an organization must be immediately put into effect, that would give Mount Clemens the scientific standing now maintained only by the great European cures.

MUSKEGON COUNTY.

At the annual meeting of the Muskegon County Medical Society the following officers were elected for the ensuing year:

President—F. W. Garber.
Vice President—B. F. Black.
Secretary—J. T. Cramer.
Treasurer—L. N. Eames.
Delegate—V. A. Chapman.
Alternate—F. B. Marshall.

Director for 3 years—J. O. Oosting.

Director for 2 years—J. Vander Laan.

Director for 1 year—G. S. Williams.

Medico-Legal Committee—F. B. Marshall.

Dr. Dodge of Big Rapids read a paper before the society Friday evening, Jan. 22, 1915. His topic was "Personal Experience with Appendicitis."

J. T. CRAMER, Secretary.

SHIAWASSEE COUNTY.

The February meeting of the Shiawassee County Society was held at the hotel in Owosso on the 9th inst., with a good attendance.

The Employers' Liability Act was the principal topic under discussion. A very able and instructive paper was presented by Dr. R. C. Mahaney of Owosso, who had visited the capital city and gathered the data for his paper at headquarters. The law, which went into effect Sept. 1, 1912, has proven, in the main, a boon to the average working man and been fairly remunerative to the general practitioner. It has been observed that there has been a considerable reduction in the number of accidents in this state since the law went into effect. It is believed to be due in part to the installation of safety devices on machinery and in part to increased carefulness of machine workers. The attending physician is paid for his services by the insurance company for the first three weeks. As the law now stands, any surgeon who expects to get his pay for a longer period than this must look to the patient or the employer for the additional amount. It is hoped at the present session of the legislature to amend the law so as to cover the entire period of disability. The law compels no injured workman to go to any company's surgeon, but if he goes to any but him, such action might have some bearing on the settlement of the case. In very many instances this is done, especially in the smaller towns and smaller manufacturing plants, and injured workmen have been attended by their favorite physician who have received their pay at the termination of the case. A fee bill for accidents has been suggested by a committee from the State Medical Society who met with the representatives of the various accident insurance companies.

W. E. WARD, Secretary.

ST. CLAIR COUNTY.

The regular semi-monthly meeting of the St. Clair County Medical Society was held at the Harrington Hotel, February 18.

There was no regular program but the members enjoyed a smoker and Dutch lunch. At the meeting the police sergeant demonstrated the lung motor re-

cently acquired by the city, and showed the members how to use it in case of need.

Dr. W. J. Duff, the local health officer, gave a report of the health of the city, particularly in regard to contagious cases.

The March 3 meeting was held at the Elks Club. There were about thirty members and guests present, including Dr. Reuben Peterson, President of the State Society.

After a 6:30 dinner Dr. Peterson addressed the Society on "The Treatment of Hyperemesis Gravidarum" and followed this with a talk on Twilight Sleep as he viewed it after seeing it at Freiburg and trying it in his own clinic at Ann Arbor. The meeting was enjoyed by those present and the only regret is that more of the members were not present.

R. K. WHEELER, Secretary.

WAYNE COUNTY.

PROGRAM

Monday, Feb. 22—Surgical Section.
Symposium—

The Surgery of Emergencies.

First Aid.

Treatment of Traumatic Shock.

Treatment of Crushing Injuries.

Treatment of Miscellaneous Injuries.

H. Dibble.

Treatment of Fractures (Simple and Compound).

A. D. McAlpine.

On Monday, February 22, Mr. James Brady, Collector of Internal Revenue, and Chief Deputy Clarence Neely appeared before the Society to explain the provisions of the Harrison Act. They said that the purpose of the act was to control the illegal use of narcotic drugs rather than to interfere with their use by legitimate practitioners. Those who comply with its provisions faithfully will not be subject to annoyance. They brought up the following points:

Suppositories are included in the provisions of this act.

They advise physicians to have printed on all their prescription blanks their registry number in the 1st district of Michigan.

Only persons legally engaged in business can register under the provisions of this act.

In ordering drugs in a hospital the physician is required to sign his name to the order sheet.

Nurses can use narcotic drugs by virtue of directions from the attending physicians.

If a physician moves his office he must notify the Internal Revenue Office within the month, else he must pay his tax anew plus 50 per cent.

They gave the following summary of the physicians' duties under this act.

THE HARRISON ACT AND THE DOCTOR.

The doctor must:

1. Be registered on or before March 1st, and on or before each July 1st hereafter.
2. Make and keep an inventory of all drugs affected by the act, as of March 1st, and said inventory must be sworn to on or before March 5th.
3. In writing a prescription he must sign name in full, state his registry number, the location of his office, and the name and address of the person for whom the prescription is written.
4. In dispensing to a patient other than one on whom he personally attends, any of the drugs included he must keep a record showing the date when such drug is dispensed or distributed; the kind and quantity dispensed, and the name and address of the patient, which record shall be preserved for not less than two years.
5. Must buy order blanks from Collector of Internal Revenue if he desires to purchase any of the drugs.

Under a supplemental regulation issued by the treasury department, only those persons who are legitimately engaged in business and having a recognized place of business are eligible to register.

The collector is empowered to refuse to sell order blanks if he has reason to believe the blanks will be used for an unlawful purpose.

All records are required to be open to federal, state or municipal officers whose duty is the enforcement of anti-narcotic laws.

Abdominal Injuries.

G. H. Palmerlee.

Discussion—G. W. Stockwell, E. N. Dolman, et. al.

Monday, March 1—General Meeting.

"Some Remarks on Autotoxemia."

Dr. C. L. Bonifield, Cincinnati, Ohio.

Discussion opened by Drs. H. W. Longyear, J. A. MacMillan, R. E. Loucks.

Monday, March 8—Medical Section.

The Segmentation Stages of the Mammalian Ovum and Early Stages of Mammalian Development.

G. Carl Huber, University of Michigan.

Lantern Demonstration.

Peripheral Nerve Diseases and Their Treatment.

Dr. Elizabeth Bentele.

Discussion opened by Drs. F. B. Tibbals, A. N. Collins, David Inglis.

Dinner to Dr. Huber at 6:30.

Monday, March 15—General Meeting.

The Exert and Causes of Insanity and Feeble-mindedness in Michigan.

Lantern Demonstration.

Albert M. Barrett, University of Michigan.

The Practice of the Specialties.

Dr. Emil Amberg.

General Discussion.

Dinner to Dr. Barrett at 6:30.

Monday, March 15—General Meeting.

It was moved by Dr. Harrison, seconded and carried, that the chair appoint a Legislative Committee to confer with the State Legislature regarding certain public health and medical bills now under consideration.

It was moved by Dr. J. H. Carstens, seconded and carried, that this Society is heartily in favor of the passage of the bill now before the Legislature to provide for Health Inspection Districts in the State of Michigan.

Monday, March 22—Surgical Section.

Mouth Infections.

Dr. Frank B. Walker.

Discussion opened by Drs. B. R. Shurley, C. H. Oakman, W. A. Giffen.

Monday, March 29—General Meeting.

"Some Phases of Appendicitis."

Dr. Hugo O. Pantzer, Indianapolis.

Discussion opened by Drs. Max. Ballin, W. P. Manton, L. J. Hirschman.

Book Reviews

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. For Students and Practitioners By Hobart Amory Hare, B.S.C., M.D. Professor of Therapeutics. Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital; one time Clinical Professor of Diseases of Children in the University of Pennsylvania. Third edition, revised and enlarged. Imperial octavo, 969 pages, with 142 engravings in colors and monochrome. Cloth, \$6.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

Every day usefulness is the dominant characteristic of the new edition of Hare's Practice. A rare faculty for concise expression has enabled the author to present in one volume of not excessive bulk the essential facts in Practice in a form which renders them peculiarly available for the use of practitioner and student. Moreover conciseness has not entailed loss of literary quality or of fluency in diction.

Dr. Hare's insight into the needs and problems of the man in general practice, and his ability to supply the exact information required, in the form in which it is available for instant use, are elements which give this work a distinctive value.

Pathology, Symptomatology and Diagnosis are given full consideration, but emphasis is laid on Treatment as the final aim in practice, and the therapeutic recommendations are accordingly set forth in detail, with indications for their employment. A comprehensive knowledge of the latest advances of present-day medicine is balanced by a wise conservatism.

The revision, which has been most thoroughly carried out, amounts practically to a rewriting of the book. New sections have been added to include the recent advances in every department of medical science, and each page has been subjected to a most careful scrutiny. The physician who has enjoyed the advantage of using Hare's Practice as a work for daily consultation will appreciate this new edition. To those who have not used it, the book can be recommended as a work of the highest didactic quality, of practical directness, and sustained interest.

The plan of the work is such as to emphasize the usefulness of the material presented. In the consideration of each disease a definition and general discussion is followed by a statement of its distribution and history; etiology; prevention and frequency; pathology and symptoms; complications and sequelae. Diagnosis and prognosis are taken up in order and in full detail, and an exhaustive discussion of treatment follows. A splendid index of sixty-four pages renders every item of essential information readily accessible.

The author has succeeded in placing the necessary facts in concise form and as a result it consists of easy reading text with an acceptable absence of short diagnostic sentences. Step by step the reader is lead and his attention held.

It may be classified as one of the best works available to the profession.

PRINCIPLES OF HYGIENE: For Students, Physicians and Health-Officers. By D. H. Bergey, M.D., First Assistant, Laboratory of Hygiene and Assistant Professor of Bacteriology, University of Pennsylvania. Fifth edition thoroughly revised. Octavo of 531 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$3.00 net.

A fifth revision of this work is presented to the student, physician or health-officer. The subject matter is thus in accord with the holdings of today.

It is a work that will be of great assistance to the physician and health officer dealing with conditions which are detrimental to health or which tend to improve health. We take pleasure in again recommending the work.

NERVOUS AND MENTAL DISEASES.. By Archibald Church, M.D., Professor of Nervous and Mental

Diseases in Northwestern University Medical School, Chicago; and Frederick Peterson, M.D., formerly Professor of Psychiatry, Columbia University. Eighth edition, revised. Octavo volume of 940 pages, with 350 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.00 net; Half Morocco, \$6.50 net.

The opportunity for an eighth edition has permitted careful reading of the text for the section devoted to Nervous Diseases. Only a few material changes have been made. The subject of vertigo and its labyrinthine relations, as developed by Barany, has received careful consideration under the discussion of the diseases of the vestibular portion of the eighth nerve. In the section on Infantile Paralysis much new matter has been added. The whole subject of Syphilis of the Nervous System had to be carefully scrutinized in order to bring the matter up to the recent epoch-making discoveries in this branch. Throughout the work references to the new investigations of the spinal fluid, and the relation to the spinal fluid changes to the various organic diseases of the brain and spinal cord have been introduced. The knowledge of the relation of glands of internal secretion to nervous disorders has also advanced materially since the appearance of the seventh edition, and such facts as have become of established importance have been added to the text. Tetany has been definitely placed in a group of nervous diseases association with glandular disorder. Altogether one hundred and fourteen sizable interpolations have been made, and over two hundred minor alterations.

With this subject revision there has been produced a most admirable and useful text book. Consisting of clear text, timely illustrations, and understandingly discussing treatment with omission of confusing theories and disputed matter, the needs of the great mass of physicians is admirably met.

MEDICAL ELECTRICITY AND ROENTGEN RAYS AND RADIUM. By Sinclair Tousey, A.M., M.D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Second edition, thoroughly revised and enlarged. Octavo of 1219 pages, with 798 practical illustrations, 16 in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$7.50 net; Half Morocco, \$9.00 net.

To fulfil its purpose of being useful to those engaged in electrotherapeutics, or having the responsibility of directing treatment by electricity, Roentgen rays, or radium, this work must be revised from time to time. The voluminous literature of this specialty, as well as the author's own experience, afford several advances in general principles, though, of course, it is impossible to include in a single book the many important incidents reported since the appearance

of the first edition. Diathermy, sinusoidal currents, radiography with intensifying screens. Roentgenotherapy, the Coolidge and similar Roentgen tubes and the author's method of dosage, and radium therapy are noted. The book has been enriched by including several of Machado's tabular classifications of electric methods, effects and uses.

The most complete and thorough book on the subject. It is an absolute necessity to every beginner in electro therapy and remains a valuable reference work for the specialist. The book is replete with illustrations, diagrams and charts and thus enhances the text. We feel the author has compiled a most useful work.

INTERNATIONAL CLINICS. Vol. I, Series XXV. A quarterly of illustrated lectures and especially prepared original articles on the several fields of medicine and surgery. Edited by Henry W. Castell, A.M., M.D. Cloth, 295 pages. Several illustrations, some in color. Price \$2.00. J. B. Lippincott, Philadelphia.

Up to its excellent established standard this first number of a new series is recommended to the reader. Every article is worthy of note and merits mention. Our limited space prevents our doing so. It is a work that should be in the hands of every studious physician.

CANCER, ITS CAUSE AND TREATMENT, by Duncan Buckley, A.M., M.D., Senior Physician New York Skin and Cancer Hospital. Cloth, 230 pages. Price \$1.50. Paul B. Hoeber, Publisher, New York.

Cancer has hitherto been regarded wholly from its histological and surgical aspects. But relatively little attention has been paid to the dietetic and medical aspects of this most threatening malady, although voices have been raised from time to time, with more or less force, claiming that the basic cause of the disease is constitutional, and that it depends largely on diet and mode of life.

In the present book the author has collected from literature and analyzed the evidence of the constitutional nature of cancer, and presents his own experience in its dietetic and medical treatment, during the past thirty years, with reports of cases.

As cancer is steadily increasing the world over, with a mortality of fully 90 per cent. of those once affected, and with over 50,000 deaths from this disease in the United States in 1913 (an average of 12 deaths from it daily in New York City), this contribution to the solution of the cancer problem is most timely and should be highly welcomed by the professions. It contains, nature of cancer, frequency of geographical distribution of cancer, metabolism of cancer, relation of diet to cancer,

medical treatment of cancer, clinical considerations and conclusions.

DIABETES MELLITUS. Designed for the use of practitioners of medicine. By Nellis B. Foster, M.D. Associate Professor of Medicine, Cornell University. Cloth, 240 pages. J. B. Lippincott Co., Philadelphia and London.

This is an excellent exposition of the literature that has appeared upon this subject. It renders unto the general practitioner the gist of all that has been written upon the subject and is a critical presentation of it. Bound to be of value.

PROGRESSIVE MEDICINE. Vol. XVII No. 1. A quarterly digest of advances, discoveries and improvements in medical and surgical sciences. Edited by Howard A. Hare, M.D. 376 pages. Price \$6.00 per year. Lea & Febiger, Publishers, Philadelphia.

Surgery of the Head and Neck, Chas. H. Frazier; Surgery of the Thorax, Geo. P. Muller; Infectious Diseases, John Ruhrah; Diseases of Children, Floyd M. Crandall; Rhinology and Laryngology, Geo. B. Wood; Otology, T. L. Saunders, comprise the general fields that are covered in this issue under the direction of these recognized authorities. Filled as is this issue with the latest developments in the subjects discussed it becomes a most necessary publication to every physician.

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago Volume IV. Number 1. (February, 1915). Octavo of 185 pages, 41 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year. Paper, \$8.00. Cloth, \$12.00.

Commencing with one of Murphy's characteristic discussions on general diagnosis in which he considers intestinal fistulas and illustrates his comments by four operative cases, to the last case on gangrenous appendicitis in which the indication for immediate operation was based on a high leucocyte count, this is a very interesting and instructive issue.

A series of drawings illustrating the author's method of bone transplantation are a valuable addition and serve to clarify the operative steps.

The series are essential to every physician and surgeon.

Miscellany

Tri-Iodides, Thrice Chlorides and Maizo-Lithium.—As an illustration of unreliability of claims and unscientific character of proprietary mixtures the Council on Pharmacy and Chemistry publish-

ed reports on Tri-Iodides, Three Chlorides and Maizo-Lithium, products of the Henry Pharmacal Company (J. F. Ballard, proprietor).

The A. M. A. Chemical Laboratory reported to the Council that contradictory and false claims were made in regard to the composition of Tri-Iodides (Henry). The Council held that Tri-Iodides conflicted with its rules in that the composition was incorrectly stated, because it was advertised indirectly to the public, because unwarranted therapeutic claims were made for it, because the name did not indicate the potent ingredients and because the mixture was unscientific.

Three Chlorides was claimed to contain mercuric chloride, arsenic chloride and ferrous chloride (protochloride of iron). The A. M. A. Chemical Laboratory reported to the Council that, while the advertising matter laid much stress on the superiority of the protochloride of iron which was stated to be present, the iron was not in the ferrous but in the ferric condition. The Council held Three Chlorides in conflict with its rules in that its composition was not correctly stated, in that it was advertised indirectly to the public for the treatment of diseases with the likelihood of doing harm, in that exaggerated and unwarranted therapeutic claims were made for the preparation, in that the name of this mixture did not indicate the presence of its potent constituents: iron, mercury and arsenic, and in that the routine administration of mercury and arsenic with iron in fixed combination is irrational.

Maizo-Lithium is one of the many proprietary lithium preparations based on the disproved theory that lithium dissolves uric acid deposits in the body. While claimed to contain "maizenate of lithium" the Association's chemists reported to the Council that they questioned the existence of such a compound, that the manufacturer had failed to submit evidence of its presence in his preparation and that chemical analysis indicated the presence of lithium citrate, instead. The Council held Maizo-Lithium in conflict with its rules in that its composition was not disclosed, in that it was advertised indirectly to the public and in that unwarranted therapeutic claims were made for it (*Jour. A. M. A.*, Feb. 5, 1915, p. 528).

Purity of Ether and Postanesthetic Glycosuria.—Animal experiments by Ross and Hawk show that postanesthetic glycosuria is not due to impurities as has been claimed, but is brought about by a carbohydrate free diet prior to the anesthesia. Those who claim that the U. S. P. tests for the purity of ether are insufficient, should present better evidence than they have so far done (*Jour. A. M. A.*, Feb. 20, 1915, p. 668).

Cod Liver Oil versus Milk, Butter and Eggs.—Like other fat, cod liver oil is readily digested and utilized in the body. Its disagreeable taste has largely outweighed its availability as a nutrient. Recent experiments have established that the peculiar growth promoting qualities of cod liver oil are likewise possessed by butter and egg-yolk fat. There seems to be no reason, therefore, to administer the unpalatable cod liver oil (*Jour. A. M. A.*, Feb. 20, 1915, p. 667).

Cod Liver Oil Cordials.—To determine if the growth promoting principle of cod liver oil is contained in the oilless cod liver oil preparations on the market, feeding experiments have been made with some of these preparations by J. P. Street of the Connecticut Experiment Station. In these experiments it was found that the normal nutrition and growth of rats was not maintained when the fat of a standard ration was replaced by a representative amount of Hagee's Cordial of the Extract of Cod Liver Oil Compound, Vinol, Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver and Waterbury's Compound, Plain. When, then, these animals were placed on a ration containing an equivalent amount of cod liver oil, normal nutrition and growth was soon established (*Jour. A. M. A.*, Feb. 20, 1915, p. 638).

Town's Epilepsy Treatment.—This is a bromid mixture marketed by the Towns' Remedy Company, Milwaukee, Wis. It was found by the A. M. A. Chemical Laboratory to contain the equivalent of 21.3 grs. of potassium bromid and 0.78 gr. of potassium iodid per dose (one and one-half teaspoonful) (*Jour. A. M. A.*, Feb. 20, 1915, p. 683).

Virol.—The Council on Pharmacy and Chemistry voted to refuse recognition to Virol (sold by the Etna Chemical Co. in the United States) because the claims made for it were unsubstantiated and unwarranted. A referee who analyzed Virol concluded that it was an extract of malt, with fat and a small amount of protein. He held that Virol could not be considered a "complete food" as claimed, nor an ideal food for infants (*Jour. A. M. A.*, Feb. 20, 1915, p. 683).

Analutos.—Analutos is a name applied to calcium acetylsalicylate. The Council on Pharmacy and Chemistry refused recognition to Analutos because it was held not to have any advantages over acetylsalicylic acid. In view of this, it was held that medicine should not be burdened with this non-descriptive name (*Jour. A. M. A.*, Feb. 20, 1915, p. 684).

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Original Articles

THE SEPTIC FACTOR IN THE THREE PLAGUES.*

WILLIAM J. MAYO, M.D.
ROCHESTER, MINNESOTA.

The three plagues—syphilis, tuberculosis and cancer—are the most widespread affecting the human race. In each of these sepsis plays a most important part. In syphilis it is so important a factor that, unless it exists, we may not recognize the process of syphilis. In tuberculosis it is almost an axiom that people do not die from tuberculosis, but from associated sepsis. In cancer, sepsis renders many cases inoperable; it is the most important factor in the production of the painful and offensive results of advanced disease and the usual cause of death following radical operations.

SYPHILIS.

"Unto the second and third generation"—how fitly this old quotation describes syphilis, and in this respect it is quite unlike tuberculosis and cancer neither of which is transmissible to the unborn child. Discovery of the spirochaeta pallida the cause of syphilis, and the newer methods of staining it have placed in our hands a great weapon of defense against this plague. Aided by the Wassermann reaction and salvarsan, we are for the first time in a position to combat the disease effectively.

It is believed by many syphilographers that syphilis in this generation is becoming milder as compared with the disease in former generations. Two reasons have been advanced for this: one, that the people are gradually developing an immunity by virtue of hereditary and acquired protective agencies based on the general theory of the survival of the fittest, and, second, that syphilis is much better treated now than it used to be. But how can we account for the high percentage of people with terminal changes

in the central nervous system—locomotor ataxia, tabes and the general paralysis of the insane: Certainly there is no diminution of these syphilitic manifestations, making all due allowance for better diagnosis. On the contrary, they appear to be on the increase; the clinical frequency of locomotor ataxia and general paralysis of the insane is appalling.

The hardness in the base of the typical chancre (the earliest indication of the presence of syphilis) and the accentuation of secondary lesions are not due to the spirochaete alone, but to complicating sepsis. (Corner). The people of all civilized countries are far cleaner now than they used to be and through improved hygienic knowledge take better care of small sores and abrasions than was formerly the custom. The chancre, therefore, is apt to be treated with strict cleanliness and often by antiseptic substances. So that it may not assume that typical hardness in the base which is due to sepsis. The failure to develop this characteristic because of the cleanliness and care of the individual may cause a failure to diagnose syphilis. For this same reason the secondary symptoms may be exceedingly mild and thus the patient may acquire the disease and pass through the primary and secondary stages without detection. The tendency of the infection is to travel along the nerve sheaths into the central nervous system and the first symptom of syphilis known to the patient may be premonitory of tabes or paresis—terminal conditions for which the resources of our art have comparatively little remedy.

It is a great misfortune that syphilis is considered only a venereal disease, therefore carrying a stigma with it. As a matter of fact, a high percentage of the patients that we see with syphilis have had an extra-genital source of infection. Lips, fingers, and abrasions at different parts of the body have been the means of communication. The failure to elicit a venereal history has frequently thrown the diagnostician off his guard.

*Founders Day Address, University of Michigan, Ann Arbor, Mich., February 22, 1915.

We see a few instances every year of surgeons who have infected their fingers with syphilis during operations on syphilitic patients. The chancre often does not develop the typical characteristics because of the care the surgeon naturally gives to minor abrasions and as his personal hygiene is good, he may slip through the secondary stage with scarcely a suspicion. Then come visceral lesions of various organs or lesions of the central nervous system. Occasionally, however, exactly the opposite condition prevails. The surgeon acquires syphilis and virulent septic infection at the same time and here the syphilitic infection is masked by the septic involvement which, however, does not prevent the eventual development of syphilis, which remains grafted on the individual after the septic manifestations have disappeared. If these accidents happen to the surgeon unrecognized, how much more liable is the ordinary individual to the same misfortune.

The importance of early diagnosis of chancre cannot be over estimated. Systemic infection does not take place until from five to fifteen days after the development of the chancre. At this time the disease is local and by proper treatment can be cured. After the Wassermann reaction has developed the great opportunity has passed for syphilis has become systemic. Prolonged treatment may or may not eventuate in a cure. This brings up the very important consideration that the spirochaeta exist in the chancre and can there be readily secured for microscopic examination. *The diagnosis of chancre should depend on finding the spirochaete; not on the induration of the base.* Every suspicious infection should, therefore, be subjected to careful bacteriologic investigation, otherwise the patient may suffer irreparable damage.

Hale White gives the following table of the relation of syphilis to the general death rate, showing that even in those cases which have been subjected to two year's treatment the death rate by decades is nearly twice as high, to say nothing of the miseries and horrors of a loathsome disease:

Class 1. Syphilis certain, thoroughly treated; two year's continuous treatment and one year's freedom from symptoms.

	Actual Deaths	Expected Deaths	Ratio
Certain syphilis between 3 and			
5 years before	13	9.32	139%
Between 5 and 10 years before	34	19.56	174%
More than 10 years before	53	24.42	217%

Class 2. Not thoroughly treated or no details given.

	Actual Deaths	Expected Deaths	Ratio
Certain syphilis between 2 and			
5 years	44	15.52	284%
Between 5 and 10 years....	54	25.52	212%
More than 10 years	76	59.09	129%

Class 3. Doubtful syphilis.

More than 2 years	67	48.71	138%
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It is a curious fact that terminal syphilis in man affects the nervous system more frequently than in woman and often pursues a more malignant course. In woman, as a satanic equivalent, syphilis is the great abortionist and carries dreadful misfortune to the children she may bear even unto the second and third generations. In certain situations syphilis leads to chronic irritation and cancer, as in the keratosis linguae preceding cancer of the mouth (Blair), especially in smokers. It is well known that the tuberculous bear syphilis badly, while the syphilitic are prone to tuberculosis.

There is much food for reflection in the septic factor in syphilis. Those acquiring the disease accidentally and extra-genitally will probably at the present time not have the chancre recognized and the cleaner the person affected the less chance that it will be recognized in the secondary stage. Those venereally affected and dirty have the best chance of early detection and prevention of systemic infection, and, if systemic infection does take place, by reason of the virulence of the secondary stage, to have it detected at this time and to secure thorough and adequate treatment.

It will take the profession a long time to rid itself of impressions of the disease which have been inherited from experience with the vicious and dirty in which the prominence of the symptoms were due less to syphilis than to associated sepsis. Corner says: "At hospitals students are taught to recognize syphilis from the examples of septic syphilis brought to their notice by their teachers. The septic factor in syphilis exaggerates its characters and furnishes some new ones of so great importance that the great text books have taken such septic characteristics as illustrative of the syphilitic nature of the lesion." As a corollary to this, Corner further says: "There are few diseases which, if recognized early, are more studiously treated and more uniformly yield good results from treatment than syphilis," and again, "Syphilis which is not recognized, and not treated, patients may transmit both to this and future generations. They then appear with nervous

disease, such as locomotor ataxia, general paralysis of the insane, and other forms of insanity and there is no history of syphilis." I would emphasize Corner's final remark that "if the patient belongs to the better educated classes he may pay a penalty for his cleanliness in the disease not being diagnosed and the virtue which he undoubtedly has is not rewarded properly."

In abdominal surgery we unexpectedly meet with visceral syphilis, most commonly of the liver or stomach, and most of these cases are diagnosed as cancer. For this reason, a piece of tissue should be secured for microscopic examination of the frozen section and, while this may not definitely determine that it is syphilis, it at least will show that it is not cancer.

TREATMENT OF SYPHILIS.

In regard to treatment: In the army, syphilis amongst the soldiers has been very largely prevented by the use of a 50 per cent. calomel ointment ($\frac{1}{4}$ lanoline and $\frac{3}{4}$ vaseline or lard), which was first used in the French army. It was found experimentally and clinically by Metchnikoff that if applied within five or six hours after infection prevention was absolute. Suspicious sores should be subjected to examination for the spirochaete and if present with a negative Wassermann reaction the disease should be treated as a local one by the direct application of salvarsan emulsion or calomel ointment and one or two preventive salvarsan injections made. It must be borne in mind in the treatment of lues as a localized infection that some cases become constitutional before the disappearance of the primary sore. For this reason, a Wassermann test should be made at intervals and the patient watched for signs of constitutional infection.

Many instances of the failure of salvarsan to cure syphilis are recorded with eventual cure by means of mercury, especially mercurial inunction. As a matter of fact, arsenic in one form or another has at various times in the history of medicine been heralded as a cure for syphilis but always has it eventually been shown to be inferior to mercury.

The value of the Wassermann reaction is very great, but in few serologic tests is the personal equation so prominent a factor. Blood drawn at the same time and sent to several serologists may lead to different opinions, but in our experience a strong positive Wassermann made by a competent man is fairly certain. However, before subjecting the patient to pro-

longed treatment, this test should be confirmed by a second and third examination. Unfortunately a negative finding has less value. Syphilis may be present without a positive Wassermann reaction, especially if the patient has been recently treated.

TUBERCULOSIS.

It is almost axiomatic that those afflicted with tuberculosis do not die from the disease but from the associated sepsis. The chief exception is in tuberculous meningitis where the products of bacterial action are confined in a bony box and produce pressure. The influence of sepsis on tuberculosis is most pernicious. In pre-antiseptic times the opening of tuberculous abscesses—so-called cold abscesses—was looked upon with great disfavor. It was well understood that incision into such an abscess was promptly followed by a characteristic type of fever and general physical loss to the patient in every way. The old writers called attention to the fact that when a cold abscess opened spontaneously it did not give rise to hectic but that hectic always followed an incision, nature evidently contriving some valvular method of drainage which permitted the escape of the contents without admitting pyogenic organisms, a method which the surgeon could not imitate. It is true today that no matter how careful the after-treatment may be, the incision and drainage of such an abscess is practically always followed by septic complications. It was for this reason that cold abscesses were aspirated and after removing as much as possible of their contents the opening was sealed. This is good practice at the present time. In many cases iodoform emulsion or formalin and glycerin was injected, hoping to sterilize the cavity. Today such abscesses, under strict aseptic precautions, are often opened by a free incision, thoroughly cleared out, and then filled with salt solution or mopped out with iodoform and glycerin, tincture of iodine, or glycerin and formalin, and sutured completely. These operations, however, have very little to commend them over simple aspiration, which was the early practice. Such abscesses, as a rule, have their origin in bony tuberculous lesions, although they may be seen in other situations.

Modern methods of treatment by rest and mechanical supports have greatly reduced the number of tuberculous abscesses, and the aspiration of those which form has reduced very materially the number of cases in which such

abscesses open spontaneously with sinus formation. In the earlier time patients with tuberculous sinuses were very common, often maintaining a fair degree of health for years. One of the most pernicious practices was to probe such a sinus. This probing was often followed by septic infection. Fortunately, the practice has now become obsolete: such sinuses can be injected with Beck's paste and a radiograph taken which will show their ramification far better than by probing. It should be remembered that in the use of Beck's paste asepsis should be carried out since tuberculous sinuses, the result of spontaneous opening of tuberculous abscesses, are practically free from sepsis and if infection is introduced into the sinus, sepsis with all its complications may follow and interfere with such prospect of amelioration as might otherwise be derived from the Beck procedure.

The behavior of tuberculosis in the peritoneal cavity is greatly influenced by the presence and degree of sepsis. Tuberculous peritonitis is secondary to a local lesion, usually in the fallopian tubes or intestinal tract or from retroperitoneal glands. Pure tuberculous infection of the peritoneum will seldom cause extensive adhesions. This variety is most often seen in connection with tuberculosis of the fallopian tubes. It should not be forgotten that tuberculous peritonitis is a symptom and not a primary disease. It is in reality a conservative process. The abdominal ends of the fallopian tubes in tuberculosis are usually open, unlike gonorrhea, in which fimbriated extremities of the tubes are nearly always closed. (Murphy).

The products of tuberculosis of the mucous membranes of the tubes pass out through the open abdominal ends into the peritoneal cavity. The peritoneum promptly undertakes to remove these tuberculous products and the resulting reaction with the accumulation of free fluid in the abdominal cavity we speak of as tuberculous peritonitis. It has been known for a long time that if the ends of the fallopian tubes were open free fluid and tuberculous peritonitis would co-exist, while if the tubes were closed there would be no tuberculous peritonitis, but the material would be retained within the tube, forming tuberculous pus tubes, sometimes of huge size containing typical tuberculous whey-like fluid. The ovaries are not often involved in this process to a greater extent than the intestines or the peritoneum generally. The proper treatment, therefore, is the removal of

the tuberculous tubes leaving the uterus and ovaries, and closure without drainage.

If drainage is used we may have development of sinuses often followed by mixed infection from some intestinal focus and in many instances by prolonged suppuration or fecal fistula. The sequence is about as follows: When the drain is used a certain amount of fluid escapes during the early period. After a few days the drain is removed and there is a little discharge. During the next week or two there is a constantly increasing discharge which becomes purulent and in the course of a month or six weeks a fecal fistula may develop from which a little gas and feces escapes, troubling the patient for months or years. In some instances wide intestinal openings occur with extensive septic infection of the already existent tuberculous lesions, and the patient dies. The drain has permitted subsequent infection.

It is very essential, therefore, that in tuberculosis of the peritoneum drainage should not be used *unless mixed infection is already present*. The old idea that tuberculous peritonitis could be cured by drawing off the fluids and that some special influence was created by exposing the peritoneum to air or by pouring in glycerin, iodoform, oxygen, or what not was based on a misconception. It is true that if the fluids were simply drawn off with a trochar improvement did not result, and it is also true that if the abdomen was opened cure often resulted whether or not any other special treatment was employed. This was due to the fact that when the abdomen was opened the fluid was thoroughly removed and the ends of the fallopian tubes, which were separated from the surrounding parts because of the fluid, had an opportunity to become adherent to some neighboring point on the peritoneum and the tubes, closed by these adhesions, no longer drained the tuberculous debris into the peritoneal cavity. This tubal retention could often be detected by the gradual development of tuberculous pus-tubes after the ascites had disappeared. Such tuberculous pus-tubes in the course of time may heal, but they usually remain a grave source of danger of general systemic tuberculosis.

Vaginal section was at one time very popular for pelvic infections, justly so for those phlegmons due to ordinary pyogenic organisms such as occur post-puerperal or post-abortive. The draining of a pelvic tuberculous infection from tuberculous tubes by an incision through the vagina causes most serious after effects and

often a patient loses her life, not at once, but later through mixed infection and prolonged septicemia with multiple rectal and intestinal fistula.

It can be laid down as a rule that pure products of tuberculosis in the pelvis should not be drained because of the impossibility of preventing septic complications. They should be removed by a clean, careful operation through the abdomen without permitting septic infection and without permitting the chance of sepsis later from drainage. Tuberculosis of the fallopian tubes practically always involves both tubes. This is also true of gonorrheal salpingitis.

I have given these few examples of the influence of septic complications as introduced by drainage which is quite parallel to the knowledge of the ancients in regard to the treatment of the cold abscess, showing the pernicious effect of drainage in permitting a subsequent mixed infection of tuberculous lesions.

Tuberculosis of the peritoneum, however, having its origin in the intestine, is very liable to be a mixed infection from the start and is peculiar in the fact that instead of developing large quantities of fluid it produces a distended abdomen filled with adhesions. Some of these greatly distended abdomens feel almost wooden on palpation and on attempting to open the peritoneal cavity it will be found to be almost completely obliterated by adherent coils of intestine. There were many descriptive terms for this condition according to the extent and virulence of the complicating sepsis, from the completely adherent type in which no free cavity of the peritoneum would be found below the transverse colon and those milder and attenuated types in which free fluid would be found with comparatively few adhesions. This very interesting condition was long a puzzle, but I have been able to secure three cases in so early a stage that we found colon and other bacteria in connection with the tuberculosis. A little later the septic infection could not have been detected because these bacteria, having a shorter life, would have been destroyed and in the later stages only the tuberculous condition would have been apparent, although the adhesive process had been caused by the septic complication.

The effect of sepsis upon tuberculosis is well shown in the so-called hypertrophic tuberculosis of the cecum and head of the colon. Here a huge tumor may exist with enormous thickening in the submucosa, giving a picture almost

typical to the naked eye of carcinoma. Some cases of this kind have been explored, believed to be carcinoma, and on account of the enlarged glands, usually from sepsis, however, rather than from tuberculosis, have been considered inoperable and a colostomy done. Such patients may live for years—supposed examples of the slow course of carcinoma of the cecum.

In 1899, I published an article on "Localized Tuberculosis of the Intestine." At that time it was not believed that primary localized tuberculosis limited to any portion of the intestinal tract ever occurred, but that it was always the result of pulmonary tuberculosis, usually from swallowed sputum. I called attention at that time to the fact that in my opinion cow's milk was responsible for this infection. I instanced that in the country districts pulmonary tuberculosis was comparatively rare but that localized tuberculosis—of bones, joints, intestines and glands—was exceedingly common, that it was customary to use raw milk as a regular article of diet and that a considerable percentage of milk cows were infected with tuberculosis. It was in this way that swine became so extensively tuberculous. A farmer feeding milk to his hogs, if his dairy herd was free from tuberculosis, had no tuberculosis among his hogs, but when the milk began to be carried to the separators and creameries and the farmer took back not the milk from his own herd but a mixture of milk from many herds, tuberculosis in hogs was almost the rule. This I believe is now prevented by law. But of course that is only for hogs which are of value commercially. For our children no such protection exists. Tuberculous milk from tuberculous herds is peddled around in nearly every city in this country and little children who are infected with bovine tuberculosis are met with on every hand.

Koch, in a series of experiments, thought he proved that bovine tuberculosis did not attack the human. All he did, however, was to demonstrate that healthy cattle did not acquire human tuberculosis. We already knew that healthy human beings would not take tuberculosis. It required a breaking down, so to speak, of the constitution of the human or of the cattle to permit the development of the disease.

I think it can be said at the present time that localized tuberculosis of the bones, joints, intestines and glands is usually due to the bovine type of bacilli and obtained from infected milk. Milk is infected not only with tubercle bacilli but with septic bacteria as well, and these

latter micro-organisms set up lesions in the gastro-intestinal canal marked in younger life by gastro-intestinal irritation, diarrhea, etc. Through these lesions, the tubercle bacillus gains entrance to the circulation. One of two things must be done. Milk must be pasteurized and no milk allowed to be sold that has not been pasteurized or else it must be certified from herds that have been carefully tested for tuberculosis and in which the milk is gathered with extreme cleanliness. The pasteurization of milk is and has been employed in many cities. In Philadelphia, all milk will be pasteurized. Heidelberg which was notorious for its tuberculous children has been almost freed from the white plague by the pasteurization of milk. It simply means heating the milk up to 160 degrees under proper conditions, which not only kills the tubercle bacilli but the bacteria of sepsis as well. It is probably today the most practical way of handling the milk question.

CANCER.

Much of the weakness and suffering of cancer is due to associated sepsis and much of the pain comes from septic infection. In the later stages and especially where the cancer has spread to other parts of the body, nerve pressure may be the cause of very severe pain as in "paraplegia dolorosa." But the rule holds good that in the primary growth the action of septic bacteria on the necrosed tumor itself and the pyogenic infection of the surrounding tissue already sadly crippled by the malignant change are the causes of the greatest distress and hasten the death of the patient. In internal situations, such as the liver, where the growth is not exposed to infection, the tumor may often reach large proportions and the patient die without severe suffering. Pierce Gould found in the Middlesex Hospital, London, that careful attention to cleanliness and antiseptic measures gave so much relief that morphia was seldom required; even further, that patients could not only be relieved of the pain, but that the symptoms were so greatly ameliorated that they gained strength and flesh merely by scrupulous attention to cleanliness.

Bland-Sutton believes that the mortality following operations for cancer is to a great extent influenced by the amount of sepsis present and especially by the character and virulence of the invading bacteria. Cancer of the cervix uteri, by reason of the virulent streptococci present in its sloughing recesses, gives a high mortality following radical operation; and

without question much of the benefit which follows the application of heat and radio-active substances in cancer of the uterus is due not only to the destruction of the growth itself but also to the destruction of the bacteria present. It is to be noted that the great mortality which has marked radical operations for cancer of the large bowel and rectum is due to septic complications. In fact it was the high mortality of primary resection of such colonic growths, especially those beyond the splenic flexure, which led to the two-stage operation of Mikulicz, Bruns and Paul. In this procedure the diseased portion of the large bowel is lifted from its bed with the fat and glands, and brought outside the body, and left to remain in this position until it heals in. The involved sigmoid may then be cut away and after the parts have been rendered reasonably sterile, the continuity of the intestinal tract can be restored by an operation which is largely extraperitoneal. In this way the mortality has been reduced one-half. In the rectum the same result is obtained indirectly by first doing a colostomy and subsequently carefully cleansing the lower fragment for some days before doing the radical operation, again reducing the mortality one-half. So true is this that an apparently inoperable growth in the rectum, fixed and adherent, may often be so benefitted following colostomy and cleansing as to become operable.

There is a type of cancer which is often called inflammatory—a foul, indurated ulcer, covered with sloughing material, with an extensive inflammatory zone, brawny and red in character. If operation is attempted in this condition, the patients are seldom cured of the disease. The lymphatics in the vicinity become loaded with cancerous material from the cut surface and spread to other parts quickly. If such a condition, however, is treated by slow coagulation with the actual cautery, the parts will become clean and healthy, the bacteria and cancer both being destroyed. When the induration and inflammatory zone have completely disappeared the entire area may be removed with plastic repair of the defect. In this way patients can be cured who would otherwise be hopeless.

I examined a woman recently who had been to us twenty years ago with a cancer involving the scar of a burn on the buttock received when she was a child. There was a sloughing, foul, indurated cancer and an inflammatory zone, altogether the size of a dinner plate. Under an anesthetic this was thoroughly cauter-

ized with the actual cautery, charring it until a perfectly dry eschar was obtained. This was treated with dry boracic acid until it separated, which required several weeks. For fear some of the cancer might have been left, the entire area was then removed with the knife and skin-grafting done. Permanent cure followed.

About the mouth the same conditions often obtain—red, brawny tissue surrounding the cancer as a result of infection. Here the thorough use of the actual cautery, as advised by Ochsner, frequently prepares the field for successful operation.

Heretofore we have not given sufficient attention to the septic complications of cancer, especially in relation to preparing the field for operation. The extraordinary change which may be made in a growth by the removal of secondary infection (sepsis) must lead us to the conclusion that not only is sepsis a cause of serious symptoms to the patient, but that it is a most grave condition considered from the operative standpoint, and that the success or failure of an operation may depend as much upon the septic condition as upon the cancer itself.

We say that cancer is malignant in proportion to the ratio of cells to the stroma, the cells representing the cancer, the stroma the resistance of the patient. Many patients have comparatively little resistance to the cancerous cell, but react vigorously to a burn, throwing out an enormous amount of connective tissue which may strangle the few cancer cells that have not been destroyed by the cautery.

It has been shown that the cancer cell, like all embryonic cells, is especially injuriously affected by heat, and that the difference between the normal cell and the embryonic cell of cancer in this respect is from 15 to 30 degrees. Based on this, Percy, using a rheostat and an electric cautery, has introduced a method for the application of heat by a slow cooking process, keeping within this marginal difference. In this way the heat, in a manner, reaches out into the tissues and destroys the cancer cell beyond its injurious effect on the normal tissues. We are now applying the Percy method of infected cancers in all situations.

SUMMARY.

1. The important role of associated septic organisms in the three most widespread plagues of mankind—syphilis, tuberculosis and cancer—is not generally appreciated.
2. Much of our conception of the primary lesions of syphilis is based on appearances due

not to the spirochaete alone but to associated septic organisms. Because of the lack of hardness in the base, a hardness due to sepsis not to syphilis, the diagnosis of chancre of non-venereal origin is apt to be missed in these days of cleanliness and antisepsis. The diagnosis should rest on microscopic evidence, the finding of the spirochaete in the chancre and later by serologic evidence rather than on the gross appearance of the secondaries, the accentuation of which is due to sepsis and therefore in clean people may not be a prominent feature. The importance of a correct early diagnosis in the prevention of systemic infection cannot be over-estimated. If this great opportunity is missed, early diagnosis will at least enable careful curative treatment.

3. Most patients afflicted with tuberculosis do not die from the disease but from the associated sepsis. The surgeon must use great care in operations on pure tuberculous lesions to prevent secondary infections with other organisms and not drain on account of the danger of subsequent infection, unless mixed infection is present.

4. Tuberculous peritonitis secondary to tuberculosis of the fallopian tubes is often pure and seldom causes extensive adhesions. The proper treatment is the removal of the tuberculous tubes and closure with drainage.

5. Peritoneal tuberculosis having its origin in the intestine is liable to be a mixed infection from the start and produces a distended abdomen filled with adhesions.

6. In tuberculosis of the kidney, septic infection is responsible for many of the most grave symptoms, though in a large majority of tuberculous kidneys for which nephrectomy must be done, there is no active septic complication. When mixed infection exists, the ureter should be drawn up and stitched to the skin following nephrectomy. When it is absent the ureter, if patulous, should be injected with five to ten minims of carbolic acid, sutured and dropped into the wound which should not be drained.

7. The draining of pelvic tuberculous infection by an incision through the vagina may result in mixed infection and prolonged septicemia with multiple fistulous openings into the bowel, often causing the death of the patient.

8. Much of the cachexia of cancer is due to associated sepsis and much of the pain comes from septic infection. Cleanliness and antisepsis give great relief.

9. The high mortality following radical oper-

ations for cancer of the large bowel and rectum is mainly due to sepsis and may be reduced one-half by two-stage operations. As much may be said in advanced cancer of the cervix when the preliminary cauterization with the actual cautery, especially the Percy method, followed by a complete hysterectomy give greater promise of cure with a smaller mortality.

10. Cancers of the surface of the body covered with a sloughing material and surrounded by an extensive inflammatory zone should be destroyed with the actual cautery and when the induration has disappeared, the entire area may be removed with plastic repair of the defect.

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THE BACKWARD CHILD.*

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I appreciate very highly the honor extended to me in asking me to come here to say something to the Calhoun Medical Society and others concerning the "Progress of the Backward Child." I fully understand that this invitation was not of a personal character, but was extended to me because I happen to be more or less identified with matters appertaining to the health of school children.

I accepted this invitation with pleasure and alacrity, because I believe that the more health

topics are discussed in public the better it is for all parties concerned, and the sooner will the inefficient and quack doctor be put out of business.

The time has passed when doctors feel that they must get off by themselves and discuss matters pertaining to the health of the people. These matters should be openly discussed, and the people should be made intelligent, should be made to understand what health means, what disease means, and how they can best perpetuate health and cure disease. I am and have been intensely interested in the health of school children, believing, as I do, that this is the place to begin the work of manufacturing a great and strong nation. The public schools are a public trust, and you and I are the administrators of this trust. It is, therefore, up to you and to me to see that our public schools are properly managed and conducted so that not only will a child's mind be trained and educated but that his bodily and moral conditions shall receive equal consideration. We assume the responsibility of educating the young. We not only invite the children to attend our public schools but we *compel* them to come. It is, therefore, up to us to see that these public schools are of such a nature, in all their departments, as will turn out the very best possible product. We are manufacturing citizens; we are manufacturing the next generation; we are manufacturing the people who will become our future presidents, senators, congressmen, governors, bankers, merchants, teachers and doctors. We can produce a high grade of citizenship, or a poor grade of citizenship. I am sure that all good citizens are of the opinion that, whether this country is at war or whether it is at peace, we want the people of this country to be as strong physically, mentally and morally as possible. In order to do this we are compelled to deal with children as early in life as possible, and it is our duty to see that their bodies and minds and morals are brought to the highest possible point of perfection.

Education is the greatest foe to racial retrogression, but no matter how high the degree of presented instruction becomes in our public schools our children cannot take advantage of it unless their bodies are in good physical condition. Let it never be forgotten then that while it is our desire to bring our public schools up to the highest possible intellectual standard, we must first of all see that the children are in proper physical condition to benefit by presented

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instruction. It should also be remembered that while intellectual advancement in schools is, of course, of enormous importance, school authorities should not make intellectual school tasks so difficult to conquer that the victory will mean the impaired physical condition of the average child. Our children should not emerge from their school-life with impaired bodies. They should graduate materially improved, not only in mind but also in body and morals. Parents have a right to expect this as the harvest of school life and unless these results can be produced our public school system is a failure. I am happy to say, however, that it is *not* a failure, and that these desirable results are almost always obtained.

It is most fortunate that we have public schools, not only because through their influence we are enabled to impart an education, but because by having the children massed together in our schools a large portion of their time we are enabled to have the opportunity and privilege of endeavoring to teach them to become good and useful citizens. Our children spend most of their waking hours in our public schools; as a matter of fact, it is established that they spend one hundred and fifty days in the year in schools. To our public schools come the children of all nations, because practically all nations are represented in our cities of any appreciable size. The schools, therefore, become the great melting pot of the nation where children congregate, mingle and are educated.

Our object is to make good, useful, honorable, American citizens and I am proud to say that, in most instances, this high ambition is successfully attained. The boy of today is the man of tomorrow, and no matter how humble may be the boy's birth and surroundings, no one can tell the position that he may be enabled to attain in society through the influences of his early education in our public schools. Our teachers should never forget the sacred trust which is imposed upon them, and what it means to have a share in the forming of the next generation. Teachers really become almost parents to the children, guarding over their physical, mental and moral well-being. In fact, they are often *more* than the parents of the children, for many of our poor children are cursed with parents from whom they never learn anything but evil. The only good that ever enters into the life of many of our school children will be found to be within the sheltering arms of the schools. They may go home to

drunken, dirty, thieving, immoral parents and surroundings and the only thing that keeps them from continuous degradation is the influence of the public schools.

Education lessens crime, therefore, let all of our children have an education. While some criminals are educated it has been estimated that, at least, over 60 per cent. of the criminals in this country are uneducated, defective men and women, and a vast majority of them were unfortunately possessed of some physical defect that made it difficult for them to remain in school and obtain the benefits of school life. They, therefore, by a natural chain of circumstances evolved into criminals. It is far cheaper for the state to provide the highest kind of education, and to see that children are in a physical condition adequate to receive such an education, than it is to allow children to grow up uneducated. It is cheaper to support schools, teachers, gymnasiums, medical inspectors, dispensaries and hospitals than it is to support policemen and jails and reformatories. It is not only cheaper but it is *better* and produces the enormous satisfaction of knowing that a duty has been accomplished and the feeling that we have done the best we could for our children, who will soon succeed us in the management of our country.

Let me ask this audience to accompany me in an imaginary journey—to the free clinics or the public schools. We will not have to look long before we find a little boy with pinched countenance and with an illy nourished appearance. If we inquire into the conditions surrounding this little boy we will find, perhaps, that his parents are poor, shiftless, degenerate people; that the boy has nothing in his home life but misery, dirt, starvation and immoral surroundings. This boy makes little or no progress in school. He keeps behind in his classes and takes no interest in his studies. He is mischievous and is a detriment to school discipline. If this boy is examined by an oculist, it may be found that his eyes are defective or diseased and that it is impossible for him to make progress in school. He may have cataracts or trachoma or some other inflammatory condition of the eyes. He may be short-sighted, astigmatic, hypermetropic, or the muscles of his eyes may act badly, and these drawbacks prevent school progress. He cannot see, as other children can, across the room, and every time he studies he may have headaches or eye-aches so that study becomes painful and disagreeable; he, therefore, shirks his studies as

much as he possibly can. He begins to stay away from school and soon becomes an habitual truant; he seeks the society of other truants and vagabonds and becomes mischievous and a committer of small criminal acts. He, perhaps, is sent to a reformatory where he meets more criminals and learns of larger crimes. After a while he becomes a professional criminal and may end his life in the penitentiary or on the gallows.

We will not have to look long before we will find another boy with a particularly stupid countenance, accentuated by the fact that he usually breathes with his mouth open. He is more or less deaf and, perhaps, he has a foul smelling discharge from his ears, which indicates dead bone in his ears that not only impairs his health but is a daily menace to his life. This boy is what we call a mouth-breather. He breathes through his mouth because he cannot breathe through his nose. His throat and nose are stopped up with enlarged tonsils, adenoids or nasal obstructions. Such conditions, after a while, produce various ear diseases and the child becomes more or less deaf. Being deaf he cannot hear what is said in school. He hates to be continually asking the teacher to repeat; he falls behind in his class; he becomes ashamed; school life becomes distasteful and eventually he, also, may become a truant or a criminal, a menace and expense to society.

These are no fancy pictures which I have drawn for you in order to emphasize my subject. They are living, breathing truths that I could demonstrate to you over and over again, in a few hours visit to dispensaries, hospitals and schools. These are the people it is our duty to help; the rich can take care of themselves. They do not always do so but they can if they will. The poor, however, have no money, are ignorant and ill-advised, and if we wish to do any good in the world along these lines we must reach down—down to the very dregs of society and pull up the poor, the helpless and the dependent. The education of such children not only benefits themselves, the schools, the teachers, and the other scholars but they carry this education home; they also carry decency, cleanliness, hygiene and morality home, so that by educating the children we go a long ways in improving the condition of the parents and the homes.

Children who stay in one room term after term are called repeaters, and repeaters are not only a trial to the teachers and a general nuisance to the school but they are

an enormously expensive luxury. It is estimated that there are in the United States about 3,000,000 repeating children and it costs about \$100,000,000 a year extra to educate them. Most of such children are thought to be mentally defective but, as a matter of fact, they are almost all *physically* defective or diseased. It is estimated that only about 3 per cent. of these apparently defective children, are really defective—the rest are only *apparently* defective. In other words—there is really no necessity for the existence of a large number of repeating children and the money spent upon the apparently defective children who repeat is uselessly and wantonly expended. It would only take a small portion of this \$100,000,000 to straighten out the tangle and almost prevent repeating by placing the children in a reasonably good, healthy condition, which would mean that not only would their health be benefited, but their school progress would be improved; every one would be benefited, and an enormous amount of money might be spent for better purposes.

As a concrete instance bearing upon the subject as to what sickness costs the state, I will say to you that in the state of New Jersey alone, \$44,000,000 are invested in public schools. It costs about \$13,000,000 a year to run the schools and there are about 500,000 pupils. The possible attendance of these pupils, estimated by days, is 71,000,000 days and yet the number of days of actual absence from school was 9,000,000. As Dr. E. A. Ayers of New Jersey expresses it—here is a plant with a total investment of about \$60,000,000 losing about 12 per cent. of its utility through absence of pupils, which is equal to about \$5,000,000 of capital standing idle. Seventy-five per cent. of these absences were due to sickness which caused a loss of 7,000,000 days or \$3,750,000 in money.

I will give you another instance: About 40,000 children annually, in Minnesota, have adenoids in their throats that retard them one year in their studies. One year's schooling in Minnesota costs \$25.00 per child, therefore, it costs Minnesota \$1,000,000 extra per year, to educate these retarded children who might all be easily cured by a simple operation.

These are two instances, of many, which I might give you, but from just these two I will ask you if you think it best, from a purely financial standpoint, to allow children to be defective and diseased, when it is possible to relieve and cure them? Do you not think it is

cheaper to take care of their health than it is to neglect it? And do you not think that all this wasted money might be used for better purposes than to take care of repeating and sick children who do not need to repeat or be sick if only school authorities will detect defects and diseases and see that they are cured?

Two things are necessary to raise corn—seed and soil; we must have good seed and a good soil. So it is with the education of children. The *seed* is the instruction which is offered, the *soil* is the child upon which the seed falls. We must have good rich soil to produce corn. We must have a good, healthy body where we endeavor to plant instruction. No matter how good the instruction is and no matter how pleasantly it may be presented, unless the child's body is sound and responsive, instruction will fall away from it; it will not take root and only a poor crop of knowledge will be gained. I think enough has been said to convince us all that one of the most important things to be attained in our public schools is the health of the scholars.

Let us now briefly consider how this may be obtained. In other words, what is really meant by the medical inspection of schools? This scheme should begin at the very beginning of things and work through systematically to the end. School buildings should be located amid healthy surroundings; should be built upon high ground where the drainage is good; should be away from excessive noises; should have plenty of air and sunlight, and should have plenty of surrounding ground where children can play and where outdoor gymnasiums can be installed. School buildings should be built by architects who make a specialty of this kind of work and such matters as light, ventilation, heating, plumbing, desks, blackboards, walls, books, bathing facilities, etc. and so on should be given every consideration. The teachers should have good health. School nurses should be employed and general and medical inspection of the scholars should be a constant and daily feature of school life. This, in brief, is what is meant by medical school inspection. I am sure that it is evident to us all, that school authorities should be in constant consultation with medical men in order to constantly keep in mind the physical well being of the scholars.

It must not be forgotten that the school proposition is a very large proposition—for there are in this country 20,000,000 school children and there are 260,000 schools valued at \$850,000,000, costing \$450,000,000 a year to

maintain. When we regard the magnitude of these figures, it must necessarily emphasize the importance of conducting the public schools of this country in a manner which will be of the best interests of the pupil, but it also becomes a self-evident fact that the school authorities of this country are conducting an enormous business enterprise that must be conducted in a business-like manner, with due regard to the necessity of both liberality and economy.

It is impossible to deal intelligently with this great subject in a single evening, and I shall only endeavor to talk upon certain phases of it, but I *do* wish to say a few words concerning the necessity for schools for defectives. I wish to remind you that many children who appear to be defective are not really defective mentally. Most of them are defective *physically*; that is, they have some physical defect or disease such as, some eye or ear disease that renders it impossible for them to easily acquire an education. I wish again to remind you, that after *all* the children have been relieved of their physical defects and diseases which are hindering them in the acquirement of an education, there will still remain about 3 per cent. of children who are *really defective mentally*. *These children are hard to teach*. They hinder the entire school work. They linger in one room year after year and hold back an entire class. This is an injustice, not only to the normal children, but it is an injustice to the defective children themselves. It is our duty to educate these defective children as well as they can be educated, but in order to do this, they should be educated in schools that are expressly opened for the purpose of teaching children who are subnormal mentally. Of course, an entirely different system of education will have to be adopted in teaching these children. Many of them will have to be taught singly and by themselves, by patient and interested teachers. Such an education will frequently result in bringing these children up to almost a normal standard, so that they will become self-supporting citizens; and, in the end, it is economy to do this work, and it certainly is our duty to give every child in every country the advantage of as good an education as he or she is capable of absorbing.

Bearing upon this subject, it may be interesting for you to know that about 50,000 American children are annually removed from school on account of physical defects. Some of these are, of course, really defective mentally but in all probability a very large majority of them

are suffering from physical defects which could be remedied, thus altering the entire life and prospects of such children. Take one state, for instance, the state of Pennsylvania: It has been estimated that about \$3,000,000 a year is saved to that state by the relieving of physical defects in school children. It certainly did not cost the state of Pennsylvania anything like \$3,000,000 to accomplish this, and there can be no question whatever that the proper medical inspection of children, and the consequent relief from physical defects and diseases, is one of the most effective and far-reaching of economical measures that any state can adopt.

As I have said before, it is impossible, in a short address, to do much more than present certain phases of this big subject, in a merely suggestive manner, and the rest of my address will be devoted exclusively to one of the most important phases of physical defects; namely, the eyes and ears of school children.

It can be confidently asserted that with the single exception of *mental capability* there is *nothing* so essential in the education of a child as good sight and hearing. A child attains most of its knowledge by means of these two senses, and any departure from a normal condition of these two important organs, must necessarily be followed by a proportionate embarrassment in the acquirement of an education.

This subject is of immense importance when we remember that out of the 20,000,000 school children in the United States 16,000,000 children have some eye, ear, nose and throat trouble that is more or less retarding them in the acquirement of an education. It should be remembered that there are 300,000 dependent blind people in the United States costing \$15,000,000 a year to maintain and that it costs six times as much to educate deaf and blind children as it does normal children. With this array of facts before us, it is evidently of the utmost importance that the eyes and ears of school children should be placed in as good a condition as possible, in order to enable them to acquire a public school education as easily as possible.

The question is—How can this be best accomplished? It may be safely assumed that it is unwise to place this matter in the hands of parents. Some parents, of course, are alive to the responsibilities of their parental duties but they may not have good judgment. Other parents have no sense of parental responsibility at all and this, of course, must necessarily work

a hardship to the children. The matter should then be taken out of the hands of the parents and placed in the hands of the schools. It can be safely assumed that it is unwise to trust to the spasmodic efforts of teachers to discover eye and ear defects. Most teachers are conscientious and earnest and strive for the well being of their pupils. Most teachers are observant and are on the watch for physical defects of all kinds, but after all, there are many defects, not only of the eyes and ears, but of other portions of the body that will easily escape the notice of a watchful and observant teacher. It may, therefore, be again assumed that it is unsafe to leave matters of this kind in the hands of teachers to deal with as they see fit. It may be assumed that the only satisfactory method of dealing with the subject is to devise some method of systematically examining the eyes and ears of the public school children. The question is—how can this best be done?

Obviously, an eye and ear surgeon can do this work better than anybody else, but there are several reasons why this solution of the problem is impracticable, and I doubt if a single instance can be shown where eye and ear surgeons have persistently and constantly carried on this work in a single city in this country year after year. Professional jealousy is one of the principal reasons for the failure of this plan, as those who are not asked to participate in the work are jealous of those who are and a Macedonian cry is promptly raised by those who have been left outside, which is always maintained with such vigor and persistency as to eventually discourage the entire movement. Besides this, many parents object, to a physical examination of their children, saying that such investigations exceed the boundaries of school authorities and that it will not be permitted. They claim to be able to settle all such matters themselves. Such parents are usually neglectful of parental duties and the unfortunate children are the innocent victims. Then, it must be remembered that an annual eye, ear, nose and throat examination by specialists of the public school children of Battle Creek, would cost a large annual sum of money if the services were paid for, and unpaid public services are almost invariably unsatisfactory and difficult to control, under authority. If these specialists should be paid even a small amount of money individually for their services it would aggregate a considerable annual sum which, I will venture to confidently

assert, would not be assumed by either a Board of Education, or a Board of Health, neither of whom *ever* have sufficient money to carry on their work in a really adequate manner. The same financial objection exists if it is proposed that these tests shall be annually and systematically performed on all children by the regular Medical School Inspectors, for if this should be done the Board would have to install a large additional corps of Inspectors and, if they did this, they might just as well employ eye and ear specialists, who could of course, and would do the work better than general practitioners. Should this be done, the question immediately presents itself as to what kind of examinations these eye and ear doctors shall make? Will they be merely brief examinations to ascertain the existence of defects or diseases—with cards sent to parents, urging them to consult their family physician or some eye and ear surgeon of recognized standing, either at his office or a free dispensary, or, will they consist of a thorough examination with or without treatment? In the latter case, offices and equipment would have to be opened in the various buildings, and the question of individual school dispensaries met and solved. I believe that at the *present time*, few cities are prepared to go into this proposition in such a complete and expensive manner, and I believe that the only kind of an inspection by anybody warranted at the *present time*, is an inspection to ascertain simply the existence of abnormal conditions of some kind, leaving it to the parents (with follow-up urgings by inspectors, teachers or nurses) to select their own doctor, and assume their own responsibilities.

It has been suggested that the tests shall be performed by school nurses, and in reply I will say, that I believe this is an excellent plan, (like the previous ones) if the money can be annually set aside for the purpose, but inasmuch as this would considerably increase the annual budget, I think the idea may be set aside as good but not at present feasible. The only other practical method of having this work done, is to have the tests made by the school room teachers, and fortunately this method is, at once, practicable, easy, reasonably thorough, and cheap. All it needs are especially devised vision charts for schools, warning cards for parents, simple report blanks, willing teachers, and the scholars.

Let us suppose that the tests are to be made in Battle Creek—what would be the necessary steps to be taken? Some one familiar with

the work and in sympathy with it should be appointed to have charge of it. Room teachers should report to their principals; principals should report to the individual in charge, and this individual should report to the superintendent of schools.

In order that teachers should become familiar with the work, they should attend a demonstrating and explanatory lecture in each city school district, where some one should thoroughly explain the plan and demonstrate its workings on a few scholars. An especially devised vision chart, with teachers' instructions attached, together with warning cards to parents and report blanks, should be distributed to each room. A day (preferably in the early fall) should be set aside for these tests in all the schools. Each room contains about forty or fifty scholars. These can be easily inspected in one day and then the work is done. It is better to examine children in rooms where they can be quiet and isolated, but if such rooms are not available, the tests can be made in the ordinary school rooms. The teachers should have cadets, school nurses, or selected scholars to assist them, as by having some one point out the letters, speak to the scholars in testing hearing, make out the warning cards, etc., the work is simplified and expedited. It will not take more than five minutes to examine a scholar after the work is systemized—so an entire school room can be easily examined in one day.

In order to make the work easy and practical I have prepared what I call a visual chart for schools. This chart contains the usual test letters for testing vision. Each line also contains, at least, one letter for illiterates, which enables small children to be accurately tested as to their visual capacity. The lower portion of the chart contains the teachers' instructions. This portion of the chart should be cut or torn off from the upper portion, on a line which is properly designated.

Three objections to this plan have been raised, notwithstanding the fact that it has been formally endorsed by a carefully selected committee of specialists and educators, appointed by the American Medical Association; is quite generally used all over the United States, and is a law in fourteen states, having been just adopted by the state of Delaware.

The first objection is that teachers are not competent to make the tests, having had no medical education. In reply, I will emphatically state that anybody who knows enough to be

a teacher can easily do the work. No medical education is necessary. Reflect for a moment upon the questions to be asked, and you will see that no medical knowledge is necessary, to answer *any* of them. For instance: "Does the pupil habitually suffer from inflamed lids or eyes?" "Does matter or a foul odor proceed from either ear?" "Is the pupil a habitual 'mouth breather'?" etc. It will be seen that these are all non-medical questions, and the others are the same. No medical knowledge whatever is necessary. The teacher is not expected to express an opinion as to a child's disease: she probably will not have any—she will merely know that the child has red eyes, or that the ears discharge and smell, or that the child is a "mouth breather," etc., etc.

She simply finds out that *something* is the matter, the doctor consulted will do the rest. These questions are so simple that a superficial reader might deem them inadequate, and yet, I trust you will believe me, when I say to you, that, if they are correctly answered, they will disclose the existence of—let us say—95 per cent. of serious eye, ear, nose and throat diseases.

The second objection to the plan is, that it is unjust to place this additional burden upon the shoulders of already over-worked teachers. In reply I will say, that if teachers fully understood the plan, its simplicity and efficiency and its benefits to the scholars, to themselves as teachers, and to the community at large, they would, I believe, be the strongest advocates of its adoption. Teachers should remember that this is *not extra* work for they would be doing school work of some kind under any circumstances and it is difficult to understand why a day's work of testing children's eyes, ears, etc. should be a much greater tax upon a teacher's strength than the usual work of hearing recitations, etc. And then think of the enormous benefit to all concerned, involved in this *one day's work*.

The *children* will be benefited, wherever this plan is adopted, because a vast majority of their eye, ear, nose and throat diseases and defects will be relieved or cured, and blindness, deafness and dumbness will be minimized. They will be enabled to go on with their school work with much greater ease and enthusiasm, their school life will be shortened and their minds, morals, ambitions, life, etc. will be benefited in every possible direction.

The *parents* will be benefited because, the easier acquirement of an education and the

general improvement in character of the children, incident to relief from their infirmities, will produce better children, and children who will become of greater assistance in every way to their parents.

The *public* will be benefited, because education means less truancy and idleness, less vagrancy and crime, less money for courts, jails, asylums, etc. and more money for the better things.

The *nation* will be benefited because the healthier and better educated the children become, the greater and more powerful will be its position as a nation.

And lastly, the *teachers* will be benefited because teaching stupid, or apparently stupid children, is the bane of a teacher's existence, and does more to vitiate their nervous and physical conditions, than most of their other labors. If all of their children could be reasonably normal children, their lives would be immeasurably happier. These eye, ear, nose and throat tests, if properly and systematically carried out each year, and faithfully followed up, will enormously lessen the number of difficult children, and will therefore greatly increase the health and happiness of their teachers. Besides this, it must not be forgotten that non-medical tests of this nature, where the children are hardly touched, and where no instruments are used, will almost completely disarm the opposition of those parents, who, for one reason or another, object to having their children's bodies touched, or their health examined, in the public schools. How then can a teacher spend a day to better advantage, and how can she invest time and work where it will bring greater returns, to the *pupils*, to the *parents*, to the *community*, to the *nation* and to *herself*, than by conscientiously and enthusiastically performing these tests, and in seeing that their spirit, and aims are fulfilled?

Please do not understand me as saying that this is the *best* method for the detection of eye, ear, nose and throat defects and diseases in children. It is not. The *best* way, is to have such work done by medical men, and preferably by oculists and aurists. But, this is also the most expensive way, and in the present condition of public funds, seems to be prohibitive. Nevertheless, when public funds are in such a condition, that medical specialists can be annually and systematically employed to perform this labor, I shall most enthusiastically advise the abandonment of the tests by teachers. At the present time, however, extraordinary

expenditures are impossible, and the tests by teachers are easy, efficient, well endorsed and cheap. I do not believe they would cost the city of Battle Creek, to exceed \$100 a year. Why not have them done now?

7 W. Madison St.

CONSIDERATION OF SOME OF THE PHASES OF SYMPATHETIC OPHTHALMIA.*

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It is my purpose to present merely some of the phases of sympathetic ophthalmia which have developed so much interest throughout the ophthalmological world during the past few years. It is today one of the open questions in ophthalmology, and one cannot help but be impressed by the fact that in comparison to the abundance of material in the literature since the first description by MacKenzie, in 1835, there is nothing which throws much light on the so far entirely unknown nature of the etiological factor of sympathetic ophthalmia.

The present status of sympathetic ophthalmia gives us four main theories as to the pathogenesis and the mode of transmission from the exciting to the sympathizing eye:

1. The migration theory of Leber and Deutschmann.
2. The modified cilio-neural theory of Schmidt-Rimpler.
3. The metastatic theory of Berlin and Roemer.
4. The anaphylactic theory of Elschnig.

Leber was the first to affirm the infectious nature of sympathetic ophthalmia and assumed that the disease reached the second eye by way of the optic nerve, the inflammation creeping forward in the lymph channels of the optic nerve as a lymphangitis.

Deutschmann believed the agents to be staphylococci; a view that has been proven erroneous.

Many facts have contributed to disprove the migration theory—the chief among which is that the slight inflammatory changes in the optic nerve head diminish toward the chiasm instead of increasing as would be the case if the disease entered the sympathizing eye from behind. Also, there are cases on record in which sympathetic inflammation developed in spite

of the fact that the optic nerve of the injured eye had been severed.

The second theory assumes that the irritation of the ciliary nerves in the eye first affected indicates a susceptibility to the disease in the other eye through a reflex disturbance of its circulation and nutrition.

Sympathetic irritation is undoubtedly effected by way of the ciliary nerves, for even a foreign body on the cornea may produce lachrymation and photophobia of the other eye, but an actual inflammation with serious anatomical changes cannot develop in a reflex way.

This led to the consideration of sympathetic iridocyclitis as a specific metastasis, first stated clearly by Berlin, in 1880. The etiologic agent enters the general circulation from the eye first affected, lodges probably in various places in the organism but finds conditions for renewed development possible only in the other eye. This of course assumes that these organisms are not pathogenic for the other tissues of the body, analogous to such organisms as cause tetanus, trachoma, foot and mouth disease, all having a predilection for a special tissue.

Roemer has strongly advocated the metastatic theory and has added experimental proof by demonstrating that organisms do enter the circulation from the interior of the eye. Infectious material from aphthae epizootica injected into the vitreous of suitable animals produced a specific foot and mouth disease. *Bacillus subtilis* injected into vitreous of rabbits could be demonstrated in the internal organs as well as in the iris of the second eye.

Meller adds a new idea to the metastatic theory. He believes that sympathetic ophthalmia is due to a definite specific micro-organism which not only may gain entrance to the eye through perforating injury, but may gain access to the blood by an injury occurring in any part of the body perhaps far distant from the eye. It may remain latent until an eye becomes damaged by trauma or intra-ocular tumor and then the impaired uveal tissue becomes suitable medium for growth of the germ and an endogenous infection results. By its growth in this eye it increases in intensity or the uvea of the other eye has in some way become sensitized to the noxa and disease of the second eye ensues. He reports three cases of undoubted spontaneous sympathetic inflammation showing the characteristic anatomical picture, in which there had been no trauma of any sort to the exciting eye.

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The failure to discover the specific etiologic organism has led naturally to the development of a theory from which microbes as a direct exciting cause are completely omitted and it was inevitable that anaphylaxis should be applied to sympathetic ophthalmia. The elaborate work of Elschmig was the first published and the theory is rightly known by his name. Elschmig's position at present is that a definite physical predisposition favors the occurrence of sympathetic inflammation in an individual, that there is present some constitutional anomaly affecting the whole organism as nephritis, diabetes, auto-intoxication in its broadest sense, etc. The first eye is injured, at the same time perhaps infected with one of the ordinary infective agents, or a nonbacterial inflammation is set up. The disintegration of the tissues which accompanies the inflammation leads to an antigenic resorption of uveal tissue and thence to a hypersensitiveness or sensitization of the remaining uvea of both eyes. As the result of this local hypersensitiveness of the uvea, the existing somatic anomaly finds a point of attack and leads to an inflammation of the uvea of both eyes—sympathetic ophthalmia.

Elschnig has carried out a remarkable amount of careful and laborious investigation in the attempt to substantiate his theory. The greatest difficulty has been the production of an auto-anaphylaxis, as all attempts at producing an anaphylactic reaction in the eye with uveal products of the same species have failed. He has shown that injections of uveal tissue emulsion as well as of chemically pure eye-pigment sensitize the system to eye pigment, not only of the same species but to eye-pigment of other animals. This sensitization can be produced with pigment of the same species but not of the same individual nor to so marked a degree as when the pigment of another species is used. The reaction is organ-specific and not species-specific.

The anaphylactic theory leads to the supposition that the inflammation is the result of the occurrence of albumin bodies of high molecular weight, perhaps acting like ferments. The origin of sympathetic inflammation following intra-ocular sarcoma is explained in part as the result of the toxic action of the breaking down products of albumin.

The fact that experimental injection into the eye of ferments and bacterial toxins by Guillery has produced the same anatomic picture as is obtained in sympathetic ophthalmia is claimed by Elschmig to be decisive for the recogni-

tion of his theory. He himself has published a case in which he obtained the same anatomical picture by the injection of hemolytic serum into the human eye, with a resulting inflammation of the uvea. On the other hand Roemer and Gebb, experimenting on nearly 1,000 guinea pigs concluded that the body of an animal cannot be sensitized to its own albumen. Morax and Bollack from an exhaustive study of the subject found that no anaphylaxis could be obtained with choroidal and uveal pigment.

The time interval between the inflammation of the first and that of the second eye is explained by the anaphylactic theory that at least fourteen days are required for the resorption of uveal pigment and sensitization of the remaining uvea; while Fuchs explains the cause of the delay by the necessity of the inflammation in the first eye to reach a certain height before metastasis can occur. The very long intervals of time are explained by a fresh anaphylactic inflammation occurring in the first eye—that the constitutional anomaly or auto-intoxication, could only at a late date effect an antigenic resorption of uveal tissue with sensitization of both uveas or produce the inflammation of the sensitized uveal tissue. On the other hand Fuchs again claims the micro-organisms may lie latent in the first eye for months or years until, again becoming active acquire the ability to set up metastasis to the second eye.

The occasional appearance of sympathetic ophthalmia some little time after enucleation of the exciting eye is understood by Elschmig that the absorbed uveal antigens which are generally sensitizing the uvea of the second eye, remain in the blood serum for a considerable period after the source of production has been removed. Hegner claims to have demonstrated this at least a week after enucleation, by the Abderhalden ninhydrin reaction, while Von Hippel, who has applied Abderhalden's method to the investigation of sympathetic ophthalmia concluded that the reaction was not specific for sympathetic ophthalmia.

The metastatic theory explains this equally well on the ground that the specific agent is present in the general circulation before the exciting eye is removed and may retain its vitality for a long time in the body. We know that the trypanosomata, which have apparently disappeared may reappear after many weeks.

Elschnig believes that enucleation of the exciting eye has no effect on a sympathetic ophthalmia already established and that the sensitization of the uvea explains it. His experience

in this respect is quite different from other writers, most of whom believe that removal of the exciting eye has an ameliorating effect upon the course of the disease.

The cases of sympathetic ophthalmia after nonperforating wounds and sarcoma of the choroid is equally well explained by the anaphylactic theory or by the endogenous hypothesis of Meller.

Acceptance of the anaphylactic theory leads to the assumption that there is no decided difference between the so-called idiopathic or spontaneous irido-cyclitis and sympathetic ophthalmia, and the work of Kümmell and Weismann has to a certain extent corroborated this. While it is probable that a certain proportion of the so-called idiopathic iridocyclitis is in reality sympathetic ophthalmia, as the three cases of endogenous infection reported by Meller, Walter Brock, from a very careful study of the Munich cases, was able to show that the idiopathic cases both from the view-point of bi-laterality and outcome, differed from the sympathetic cases.

The non-occurrence of sympathetic inflammation after panophthalmitis is explained by the complete destruction of the uveal tissue and pigment so that it cannot give rise to the formation of antibodies. It is difficult to understand how the uveal tissue can be so rapidly and so completely destroyed as not to allow of antigenic resorption on the basis of the anaphylactic theory. On the other hand, it is not hard to conceive, according to the microbial theory, that panophthalmitis should not set up a sympathetic inflammation as it is quite a different process caused by quite a different group of organisms. Only an irido-cyclitis of a well defined sort, marked by a peculiar, very characteristic anatomical condition can be associated with sympathetic ophthalmia.

Anatomical picture of fully developed sympathetic ophthalmia is, in the light of our present knowledge, one of the strongest arguments for a microbial origin of the disease. It consists essentially of a nodular or in later stages of a diffuse infiltration, with great thickening of the uveal tract with lymphocytes, with the frequent occurrence of epithelioid and giant cells. The infiltration has a tendency to pass out along the choroidal vessels but shows a marked tendency to spare the choriocapillaries. In advanced cases the whole choroid thickens, the iris is converted into a thick tumor, the ciliary body is turned into mass of infiltrate and the sclera and other tissues become involved. The characteristic

nodules of lymphocytes with epithelioid cells and giant cells so closely simulate tuberculosis that it is often difficult to differentiate. The great difference was supposed to be the absence of necrosis but recently Meller has found necrosis in two cases of undoubted sympathetic ophthalmia. So definite are the histological findings that out of 200 eyes enucleated for various causes, Fuchs, without knowing the histories, from the microscopical appearance alone, was able to select thirty-five which had caused sympathetic ophthalmia. He failed only in one case and none of the other cases were found to have been associated with sympathetic disease. While the early stages may not differ greatly from the effect produced by experimental anaphylaxis, intravenous injections of ferments, etc., it is hard to believe that the fully developed granuloma of sympathetic ophthalmia, so closely resembling leprosy, syphilis and tuberculosis, can be the product of anything but microbial action.

One of the weak points in the anaphylactic theory is the assumption of a constitutional anomaly. It is a well recognized fact that sympathetic ophthalmia occurs most frequently in healthy robust individuals. The fact that Elschning has found indican in the urine of many with no other demonstrable anomaly, to my mind is of little significance. Constitutional anomalies are far more frequent in individuals with other forms of iridocyclitis and diseases accompanied by extensive disorganization of the uveal pigment who never develop sympathetic ophthalmia.

The insidious onset which generally characterizes sympathetic ophthalmia and the clinical course is distinctly at variance with the sudden onset and rapid rise of ordinary anaphylactic manifestations and while some anaphylactic inflammations progress slowly, after quickly reaching their maximum without a second dose of antigen, which is analogous to the slow course of sympathetic ophthalmia, it is hard to conceive how an eye, in which all the uveal tissue must be sensitized at practically the same time, should show the separate and isolated areas found in the anatomical specimens of sympathetic ophthalmia. The uveal pigment is supposed to be the chief factor involved in the anaphylactic process, which makes it difficult to explain the frequent exemption of the retinal pigment layer except in the severest cases.

Also the occurrence of optic neuritis frequently in the beginning of sympathetic oph-

ththalmia can hardly be explained as the result of a sensitization of uveal pigment.

The convenience of the anaphylactic theory is very attractive in the easy explanation which it offers for the absence of a specific micro-organism. But, as Morax remarked at the seventeenth international congress of medicine in London, it is largely based on exceptional cases and ignores the reduction in the number of cases of sympathetic ophthalmia which has accompanied the aseptic treatment of wounds of the eye, and, further, that to establish his theory Elschmig must prove that ocular traumatism can provoke absorption of uveal albumin or pigment, which can act on the healthy uvea of the other eye in virtue of a process of sensitization favored by a general bad state of health, the existence of which can be recognized, in the absence of other symptoms, by indicanuria. As none of these propositions appear to Morax to be proven, he considers that Elschmig has not brought sufficient support to a theory which he proposes to substitute for more rational conceptions, the clinical consequences of which are of capital importance.

Considerable work has been done on the changes in the differential blood count in sympathetic ophthalmia during the past few years. Gradle, while working in Elschmig's laboratory found a uniform increase in the mono-nuclear cells with a corresponding decrease in the polynuclear count in cases of perforating injury with subsequent irido-cyclitis. Ormand obtained similar results in three cases of sympathetic ophthalmia. Browning, at Moorfields, working with the blood of definite cases of sympathetic ophthalmia, made a further differentiation of the white blood cells and found a marked increase in the number of large mononuclear leucocytes while the polynuclear leucocytes were correspondingly diminished. He found a typical blood picture in practically every case of well-marked sympathetic ophthalmitis. The average blood count in sympathetic ophthalmia as compared with the normal count is as follows:

Polymorphonuclears	54%	Normal	60%
Lymphocytes	..... 28%	Normal	20-23%
Large Monuclears	.. 16%	Normal	2-5%

This blood picture shows a very striking similarity to the blood counts of some of the protozool diseases, malaria, syphilis, trypanosomiasis, Kala-azar, etc., and this fact has been taken as very suggestive that sympathetic ophthalmitis may be of protozool origin. Browning also found that in many cases the blood showed marked changes at a time when there was still

no other evidence pointing to the probable onset of sympathetic ophthalmitis. The blood frequently remained normal for weeks and then suddenly showed all the signs of a typical protozool count, so that a normal count could not be taken to exclude danger of sympathetic ophthalmia but a positive count, namely an increase in the large monuclears with some lymphocyto-sis was considered very ominous. Removal of the exciting eye caused a return of the blood to normal in a case of Lawford's.

The fact that salvarsan had been of value in the treatment of other protozool diseases besides syphilis, led to its employment in sympathetic ophthalmia. Syphilis was excluded as far as possible by the Wassermann reaction and the first case treated in Mr. Lang's clinic at Moorfield's, February, 1911. The first results were sufficiently good to justify its use, also the blood count became normal. Relapses followed, each time accompanied by a tendency of the blood count to revert to the protozool type, while a further dose of salvarsan again improved the eye and the blood, at times with permanently beneficial results. Twenty cases of sympathetic ophthalmitis treated with one of the salvarsans have been reported by Browning and while the results with a few marked exceptions have not been startling, they have been much better than the average with the older methods of treatment. Cases of sympathetic ophthalmia treated with the salvarsans have been reported by Sydney Stephenson, M. S. Mayou, Schieck, Calhoun, Manolescu, Chaillons, Siegrist, Adamuck, etc. In some, the results have been striking even when other therapy had apparently failed, while in others, the results have not been as favorable. Some good results have been reported by Bernheimer and Strewe with tuberculin in patients with a positive tuberculin reaction. One celebrated case of Zur Nedden's was treated with injection of blood serum obtained from an individual who had been a victim of sympathetic disease and complete recovery followed. Derby and Pratt also obtained one good result in four cases with similar treatment. Also the beneficial influence of the salicylates, benzo-saline, mercury and urotropin, and atophan, point in the direction of a microbic origin. Should subsequent experience prove salvarsan to have anything like a specific effect upon the disease it would go a long way toward proving the microbic, possibly protozool, origin of sympathetic ophthalmia. The pathogenesis of sympathetic ophthalmia is still a muted question but with the amount of

interest that has been aroused of late years and the work that is being done, there is hope that before long we will know more about the nature of this disease.

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INTESTINAL TOXEMIA.*

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The subject of intestinal toxemia is unfortunately not so thoroughly understood as the frequent use of the term by the profession would indicate. Usually the term "auto-intoxication" is used when reference is made to a toxemia of intestinal origin. This is an unfortunate use of terms. "Auto-intoxication," in the strict meaning of the term, has to do with an intoxication resulting from the action of certain materials elaborated by the tissues of the body during metabolic activity, and has no reference to toxins resulting from bacterial activity, whatever the site of production may be. We consider the possibility of toxins being elaborated by the bacteria that may normally or accidentally be inhabiting the intestinal tract, and that these toxins may be absorbed and exert a deleterious effect on the organism. But we should always recognize that those toxins are exogenous and that the intoxication resulting from the absorption or accidental inoculation of the body should never be confounded with the intoxications resulting from metabolic activity of a normal or abnormal character. We should, then, avoid the use of the term "auto-intoxication" or "intestinal auto-intoxication" when reference is made to a toxemia of intestinal origin, and use instead the term "intestinal toxemia," or "intestinal intoxication."

PATHOLOGICAL PHYSIOLOGY OF INTESTINAL FUNCTION.

Since the time of Bouchard, who so interestingly, but unfortunately with a great many inaccuracies, presented his ideas on the subject of auto-intoxication, there has been a great interest in the possibility of our being poisoned by the absorption of the products of the bacterial activity of those forms of bacteria which may practically always be found in the intestinal tract. In many instances certain investigators have been led to make unwarranted statements which were not based on proper scientific findings, and have attributed too

many of the ills of mankind to the action of toxins of intestinal source: just as a few years ago some considered uric acid as the source of a great many troubles with which it had nothing to do. Nevertheless, a great amount of work has been done, the results of which apparently prove beyond reasonable doubt that it is possible for the organism, under certain conditions, to suffer severe injury, because either the normal barrier to the absorption of these toxins is broken down, or they are produced in excessive quantity. In the province of this paper it will be impossible to consider the proofs of such phenomena except in a very brief way, and only as forming a foundation for the consideration of the therapeutics of intestinal toxemia.

A brief summary of the normal digestive processes is as follows:

In the mouth the food comes in contact with the first secretion of digestive glands. The saliva has a far greater function than was formerly supposed. In addition to the purely mechanical preparation of the food for deglutition, which is accomplished by thorough insalivation, the saliva exerts a very decided amylolytic action on the starches through its foment amylase, and because of this early conversion of a portion of the polysaccharides into disaccharides and into maltose, we have that portion ready for absorption in the upper part of the intestinal tract before the products of digestion come in contact with the bacteria that act on the carbohydrates and to some extent lessen their calorific value to the body. But probably of still greater importance is the function of the saliva in stimulating the secretion of hydrochloric acid and pepsin. This is accomplished, as shown by Pawlow, through the psychic stimulation resulting from the pleasurable sensations experienced when the flavors of the food stuffs are brought into proper solution by the salivary secretion.

In the stomach the food comes in contact with a gastric secretion whose principle action is on the proteins. The carbohydrate digestion, under the influence of the amylase of the saliva, is inhibited by the action of the free hydrochloric acid. This inhibition, however, is delayed, as has been proven by some authorities, who have demonstrated that the starch digestion goes on in the stomach for a period of from fifteen to forty-five minutes, depending somewhat upon the amount of hydrochloric acid secreted.

The three ferments found in the gastric secretion are lipase, a fat splitting ferment, a

*Read before the Kalamazoo Academy of Medicine, Oct. 27, 1914.

proteolytic enzyme termed pepsin, and a milk curdling ferment called chymosin. Lipase, which under certain conditions has the ability to digest fat or to emulsify the free fats and transform them into fatty acids, is of very little importance, as it is only active in a neutral or slightly alkaline reaction. The chymosin, or rennet, a milk curdling ferment, has to do solely with the curdling of milk through its action on the casein, probably a conversion of casein into peracasein, which is activated by the hydrochloric acid. It is secreted as a proferment, but all acids have a similar effect on it. Casein is soluble, while peracasein is insoluble. The chymosin is active in the neutral or acid reaction: one part will coagulate from 100 to 1,000 parts of milk.

The principle digestive changes of the food in the stomach take place under the influence of the pepsin-hydrochloric acid combination. The action of the pepsin in the presence of hydrochloric acid on the proteins of the food is to simplify the molecule, digestion not being carried to the final or complete stage. The proteins are converted into proteoses, and a portion into peptone, which may be considered as more simple protein molecules. They correspond somewhat to the dextrins which are formed by the action of the saliva, which are intermediate products between the starch and the maltose, which is the end product of the salivary digestion. They are rather preparatory products which are still further simplified under the influence of the intestinal ferments. Peptone we now know is not the final end of protein digestion. The action of the pepsin is confined almost entirely to the stomach. As soon as the acid reaction is overcome by the alkaline juices of the intestine, the peptic activity is lost.

In diseased conditions of the stomach, where there is an absence of hydrochloric acid, the pepsin secretion is also practically nil. The digestion of proteids in the stomach, under such conditions, is also nil. If the motor functions of the stomach are preserved and the food does not fall a prey to bacteria in this locality, the digestion of protein under the action of the intestinal juices is normally completed.

The small intestine is the chief organ of digestion and practically the sole organ of resorption of the products of digestion. It is capable alone of maintaining the entire function of digestion, and under normal conditions over three-fourths of the chemical work of digestion is accomplished there. The food here comes in contact with three important secretions: the bile, the

pancreatic juice and the succus entericus. The pancreatic juice and the succus entericus each contain practically complete sets of enzymes and are in a sense duplicate plants. The bile contains no enzymes but does contain certain activators and zymo-exciters.

There is an interdependency existing between the pancreatic function and that of the stomach and the small intestine, but the body has great power of adaptation, and when one part fails to do its work, as in the absence of the hydrochloric acid and pepsin, digestion of the proteins is perfectly accomplished by the action of the pancreatic secretion and the succus entericus. Under normal conditions the pancreatic secretion is greatly augmented by the stimulating effect of the acid stomach contents, but in the absence of this stimulus the work of digestion is satisfactorily accomplished. The pancreatic secretion contains three enzymes; an amylase, acting on the starches and disaccharides; a lipase, a fat splitting ferment; a trypsin, a proteolytic enzyme.

The amylase is much more powerful than that of the saliva, and completes very readily the digestion of the soluble starch. The lipase, or fat splitting ferment of the pancreatic juice, accomplishes practically the whole of the digestion of fats. It is secreted in an inactive form and is activated by the bile, the succus entericus and by bacterial action. The action of the bile as containing a zymo-excitor is very well exemplified here. When there is obstruction to the entrance of the bile into the intestinal tract, the stools contain a large amount of undigested fat and are white in consequence. The succus entericus, also contains a lipase of some importance.

The albumins under the influence of the trypsin of the pancreatic juice, and the proteolytic ferment of the succus entericus, are completely hydrolyzed and the molecule is reduced to a much smaller size than under the action of the pepsin. Since the albumins of the blood are of a different character than those of the food it is quite probable that the analysis of the proteins under the process of digestion must be very complete and that a synthesis occurs after absorption.

The succus entericus contains eight ferments. All of the different digestive activities can be carried on by the ferments of this secretion. Its function seems to be that of completing the digestion of any material whether it belongs to the carbohydrates, fats or proteins, which may have escaped the other digestive secretions.

Nature has endowed us with a wonderful chemical laboratory, which is able to take the material which we ingest as food and properly prepare it for absorption, and in such form as can be readily used by the body, either as material to replace lost constituents or to be burned so as to produce heat or energy.

In the intestinal tract carbohydrates are converted into maltose and into dextrose, the latter probably before the blood stream is reached; the fats into fatty acids and glycerin, and the proteins into albumoses, peptones and later into the simpler forms of protein, as lysin, arginin, histidin, Monoamino acids, tyrosin, phenylalanin, tryptophan, leucin, glycocol, alanice, aspartic acid, glutamic acid and amidovalerianic acid.

Taylor¹ has classified the disturbances of function of the alimentary tract which may permit of possible pathological variations, as follows:

- "Disturbances due to improper methods of mastication."
- "Disturbances due to toxic or otherwise injurious ingesta."
- "Disturbances due to anomalies in secretion of digestive juices."
- "Disturbances due to abnormalities in motor functions."
- "Disturbances due to qualitative deviations in the chemical reactions of the process of digestion."
- "Disturbances due to quantitative variations in the chemical reactions of the digestive processes."
- "Disturbances due to bacterial infections and reactions within the tract."

It will be impossible to discuss these causes in any but a very brief way. Imperfect mastication usually allows of imperfect insalivation of the food and, leaving the food in large masses, renders it more or less difficult of solution and impervious to the action of the digestive juices. The action of the ptyaline of the saliva would be very slight, but as the enzymes of the intestinal juice would probably make up for this, it would be considered of little importance. Probably the most unfortunate result of imperfect mastication is that the psychic stimulation of the gastric secretion, which is greatly augmented by thorough mastication, would be seriously interfered with. Again, the food being in large masses, it would more readily fall a prey to bacteria.

The ingestion of toxic articles of food is so thoroughly understood that it needs no further comment here. Disturbance due to anomalies in secretion of digestive juices is a common pathological condition, but its discussion here

would too greatly extend this paper, so it must be dismissed, though worthy of serious consideration.

Disturbance due to abnormalities in motor functions is of importance from the standpoint of intestinal toxemia, for this is largely responsible for stasis of the food contents in some portion of the digestive tract, which means that it favors the growth of bacterial products, the absorption of which may have a deleterious effect on the organism.

Disturbances due to qualitative and quantitative variations in the chemical reactions of the digestive processes together with defects in the process of resorption will not be discussed. This paper has to do chiefly with disturbances due to bacterial infections and reactions within the digestive tract.

Strictly speaking, the term "intestinal auto-intoxication" would indicate an intoxication due to the products of normal digestion. Aside from the anaphylactic phenomena occasionally met with where the product of digestion of certain proteins, such as egg albumin, seems to be the factor producing the phenomena, we have no reason to believe that normal products ever cause intoxication. The intoxication of intestinal origin results from absorption of the products of bacterial activity or infections, and should be spoken of as intestinal toxemias or intoxications.

The action of the intestinal bacteria on the food stuffs is very important. Their activity depends on a proper media and as a result of their activity we have their toxins to contend with. In the stomach the food stuffs, under normal conditions, are practically free from bacterial decomposition. When we have an absence of hydrochloric acid, we sometimes have a fermentation of the products of carbohydrate digestion, and throughout the digestive tract the bacteria have their most pronounced action upon the products of digestion rather than upon the undigested food stuffs. In cases of pyloric obstruction, with long delay of the food in the stomach, we have but little putrefaction, but quite marked fermentation. In the small intestine, because of the fact that peristalsis is very active and absorption rapid, we have but slight bacterial activity. When we have ileal stasis, as frequently results from a Lane's kink, or adhesions about the ilco-cecal valve, we have more marked evidence of putrefaction, as well as of fermentation. The upper part of the small intestines is more favorable to the growth of fermentative forms of bacteria, while the

1. Digestion & Metabolism p. 204.

lower portion allows of the development of the putrefactive forms. Since the aerobic bacteria are the ones producing putrefaction, and since the upper portion of the small intestine still contains some air that has been swallowed during mastication, this would account for the upper portion of the small intestine not being favorable to putrefactive changes. It is in the colon that the bacteria, especially the putrefactive forms, thrive. Because of this the colon bears a very bad reputation; it is attracting of late even more attention than the appendix, and our surgical brethren have been endeavoring to help the situation by operations of short circuiting or even entire removal of that portion of the intestinal tract. It seems that the digestive processes that take place here are practically negligible and that absorption of the products of digestion in the small intestine have been nearly completed under normal conditions at the site of formation. Metchnikoff believes that the absorption of the products of intestinal toxins from this locality is responsible for old age, and practically all the other ills of human flesh. Its great function seems to be to furnish work for the doctors, for without the different forms of colitis and the constipation which affect so large a proportion of mankind, I fear our legitimate field of work would be decidedly lessened.

Not only upon the unresorbed products of digestion, but also upon the digestive secretions themselves, do the bacteria thrive. In fasting or starvation putrefaction does not cease, as evidenced by the appearance of the patient and the unmistakable signs of putrefaction found in the urine and feces. The digestive secretions contain protein in solution and they offer a remarkably satisfactory media for the growth of bacteria.

The action of the fermentative bacteria takes place principally in the upper part of the small intestine, but may extend throughout the small intestine and into the large bowel. The products of fermentation are fatty acids and alcohols, lactic and succinic acid, and the evolution of carbondioxide, methane, hydrogen and other hydrocarbon gases. These materials in the amounts formed are not sufficiently toxic to warrant any great attention. No doubt at times the caloric value of the carbohydrate is considerably lessened by these chemical changes, but this is not of any serious importance. The fats are somewhat resistant to bacterial decomposition in the intestinal tract, and when they suffer decomposition the resulting products are

not very injurious to the body. Combe² calls attention to the fact that their presence in excess favors the putrefactive changes in the proteid.

It is quite generally agreed by physiologic chemists that toxic bodies result from the action of the bacteria in decomposing the protein substances. These materials that lend themselves readily to decomposition are the products of protein digestion, and the intestinal secretions. While it is possible for the native proteins to suffer decomposition by bacteria, they are much more resistant than the more simple forms, resulting from the digestive activity.

As a result of the bacterial decomposition of tyrosin, phenyl-alanin, tryptophan and histidin there are formed bodies whose toxicity is definitely known and which, under favorable conditions, must have serious consequences. Tyrosin is broken down into paracresol and phenol. Tryptophan is converted into indol, indolacetic acid and skatol. After absorption these products are carried to the liver, and in part are conjugated with sulphuric acid derived from the disassociation of albumins. The phenols form sulpho ether acids, the phenol sulphones and cresolsulphuric acids. The indol is chiefly derived from tryptophan and the amount found in the urine does not so much depend on the degree of intestinal putrefaction as on the amount of tryptophan which depends on the character of the diet, and the degree of resorption as well as the character of the intestinal flora. It is therefore very difficult to determine the degree of intestinal putrefaction. An analysis of the urine for indican is not a certain criterion as indican is only one of the aromatic bodies resulting from the activity of putrefactive bacteria. An analysis of the total ethereal sulphates is a better guide, but even then we have three factors that may modify this result: The character of the diet; the intestinal flora; and the factor of resorption.

While we can demonstrate the formation of phenols, indol, and skatol, as a result of intestinal activity of proteolytic bacteria acting on the products of digestion and on the digestive secretions, is it possible for us to prove that they are injurious to the body? Do those cases that exhibit considerable amounts of these bodies in the stools and urine, suffer any inconvenience from their absorption? It is scarcely necessary to demand experimental evidence to prove this. Every physician has observed

2. Autointoxication. p. 249.

this clinically in numerous cases. If this is not the case why are we so anxious to avoid constipation? Why do patients come to us complaining of loss of appetite, furred tongue, fetid breath and headache and of their own volition, having in mind former experiences, ask for something to clear out their intestinal tracts? Why is it that so many chronic invalids, in whom it is impossible to determine any organic trouble, make such marked improvement when attention is given to relieving their intestinal stasis? And why do we find a marked decrease in the indican of their urine as they show signs of improvement?

Von Noorden³ describes very beautifully a condition ordinarily termed neurasthenia, but which is especially of interest because along with the nervous symptoms there is a decided polyneuritis, and this he claims is due to intestinal intoxication, and is relieved by measures that will overcome the chronic constipation which is of the spastic type. This condition is also described by one of his pupils, Dr. Eppinger, as vagatony, because of the decided vagus irritation. These investigators conclude that this results from toxic material absorbed from the intestinal tract, because the indican is increased from a normal of 20 mgs. to 50, 80 or even 100 mgs. and also since Eppinger has been able to extract a poisonous substance from the stools, which in animal experimentation produced similar symptoms.

Herter⁴ has also cited many examples where it seemed to be proven beyond doubt, as a result of experimentation, that indol exerted a toxic effect on the organism. Crile also shows that skatol has the same effect on the brain cells as does shock, bacterial toxins, etc.

The question naturally arises: Why is it that all cases exhibiting increased amounts of indican and ethereal sulphates fail to reveal symptoms of intoxication? Probably this is so because of the fact that the body is endowed with the ability to protect itself against the untoward action of these toxic products. Combe⁵ describes a triple line of defenses surrounding the intestinal tract. The first line of defense being the intestinal mucosa, which protects by its secretions which have a restraining effect on the intestinal bacteria, the bacterial toxins are in some way rendered harmless by them for an equal amount of toxin administered by mouth and by way of the portal vein;

in the first instance the toxic symptoms were much less than when injected into the portal vein. But it is quite well demonstrated clinically, as in obstruction of the intestinal tract, that when the intestinal wall is in part denuded of its mucosa, the toxemia is very much more apparent.

The second line of defense is the liver. Here it is that the indol, skatol and phenols are conjugated with the sulphuric and glycuronic acids to form products that are very slightly toxic compared with their antecedents. No doubt the liver has to bear the brunt of the attack and it is only because of its ability to form less harmful products of those intestinal toxins that the body is so immune from harm. It has also been demonstrated that it retains a part of the phenol and indol which is not conjugated. Schupper⁶ is authority that the liver exerts, owing to the biochemic activity of its cells, a marked toxicolytic action on toxins and alkaloids. He demonstrated that the toxicity of the alkaloids—atropine, pilocarpine, cocaine and apomorphine, was reduced 50-75 per cent. Combe has worked out a urotoxic coefficient which was demonstrated by experiment on animals, both before and after ligation of the portal vein, and the conclusion is that the toxicity of the urine is proportional to the degree of hepatic insufficiency.

The third line of defense he considers to be the glands of internal secretion: The thyroid, the suprarenal and the pituitary body. From our more recent knowledge, we are certain that they do exert some antitoxic action, as evidenced in the absence of their function in diseased conditions.

It seems, then that the body is well fortified against harm from the action of toxins of intestinal origin; and probably symptoms of intestinal intoxication result as frequently from the body losing its power to cope with what might be considered a normal amount of these materials as from an excessive formation of them.

THERAPEUTICS OF INTESTINAL TOXEMIA.

In the treatment of this condition our efforts must be directed chiefly toward limiting the putrefactive processes of the intestinal tract. This can be accomplished in five different ways:

1. The selection and ingestion of food that is freed from contamination with putrefactive bacteria.

3. Jour. of A.M.A., Jan. 11, 1912.

4. Bacterial Infections of the Intestinal Tract.

5. Autointoxication. pp. 72 etc.

6. Ball d. Acc. Roma. XIX, p. 5.

2. The proper preparation of the food for prompt digestion.

3. The selection of a menu that will not furnish an excess of protein material.

4. By preventing abnormal stasis of the intestinal contents.

5. And by controlling the intestinal flora so that the putrefactive bacteria are reduced.

Very frequently the intestinal putrefaction is greatly augmented because of the fact that we ingest food that is already thoroughly contaminated with putrefactive organisms. While the hydrochloric acid of the stomach inhibits these putrefactive changes in the upper part of the alimentary canal, nevertheless, it is not of sufficient concentration to destroy them. Under such conditions we have a more intense bacterial decomposition of the proteins, with the resultant toxic products, which are very injurious to the body. Flesh foods are very prone to decomposition, and inasmuch as the refrigeration of these foods is not always what it should be, in a great many cases they are used for food when in an advanced stage of putrefaction. The great time which elapses between the slaughter of the animal and the time it is served for food is very favorable to such a condition. The same is true of eggs and canned foods. Thorough cooking would probably destroy these bacteria, but probably would not markedly influence the toxic material already formed. But since it is the habit of a great many people to have their flesh foods served almost raw, we cannot believe that sufficient heat has been applied to these foods to thoroughly disinfect them.

As to the proper preparation of food for prompt digestion, this depends largely on thorough mastication. Food which is swallowed in large masses is very resistant to the action of the intestinal juices and is very apt to escape the activity of the juices of the stomach and of the small intestine and to reach the colon still quite unaffected by the digestive processes. Under these conditions, and as there is practically no check to the action of the putrefactive bacteria in the large intestine, these organisms find favorable conditions for great activity.

In controlling the intestinal putrefaction, a very great deal depends on the proper relation of fats, carbohydrates and proteins. A diet which is poor in carbohydrate material but contains an excess of protein, offers itself very readily to putrefactive decomposition. An excessive amount of protein in the diet, probably is more responsible than anything else for intestinal

toxemia. We have been accustomed to prescribing diets which contain 100 grams of protein, or more, per day. In the diet of the ordinary individual who is living at hotels, where meat foods are in great preponderance on the menu, 150 or 200 grams may be used per day. The matter of protein intake has received considerable attention of late, and it has been found that so large an amount of protein is entirely unnecessary. Chittenden, in his experiments, found that from 50 to 60 grams of protein was an ample amount; nitrogenous equilibrium was easily maintained with this quantity. Taylor,⁷ recommends that seventy grams is sufficient for all conditions. If it is necessary to increase or decrease the total calories of the diet, this should be done by the regulation of the fat and carbohydrate-energy producing elements, which are very much more advantageous for the production of body heat and energy than protein. An excess of 70 grams of protein means that we are obtaining a portion of our energy and heat from this form of fuel, which is the most expensive form, and which is very apt to be injurious because of its decomposition in the intestinal tract, also because after absorption it imposes an excessive amount of work on the oxidizing and excretory organs. Carbohydrates and fats do not lend themselves to the production of intestinal toxemia. While they may give rise to excessive fermentation in some intestinal disorders, nevertheless, they are very slightly injurious compared with the toxic substances elaborated during the digestion of the proteins.

Intestinal putrefaction is favored probably by abnormal stasis of the intestinal contents at some portion of the canal. Constipation, which so universally afflicts the American people, is an example of abnormal stasis. When the stasis is in the lower part of the ileum it decidedly promotes intestinal putrefaction and absorption of these toxins, as the small intestine is the organ of resorption. In the most marked examples, abnormal stasis is found in the colon. In all forms of spastic constipation, where the spasm affects the pelvic and iliac portions of the descending colon, the intestinal contents accumulate in the cecum and the transverse colon, where they are held for many hours longer than they normally should be.

To relieve perfectly this condition is one of the most difficult things which the physician is called upon to do. In most instances, when a patient complains of constipation, the temp-

7. *Digestion and Metabolism*. p. 498 and following.

tation is strong to resort to laxatives of some character, and as a result we see the shelves of our drug stores filled with all sorts of remedies which are supposed to be safe cathartics. The habit of resorting to cathartics for the relief of constipation is probably more than any other one thing responsible for the chronic ailments of today. Unfortunately constipation is not cured by the relief of cathartics which generally produce their effect by irritation, and the longer they are used the more the general nutrition of the individual suffers, and the more difficult it will be finally to relieve the constipation. Von Noorden⁸ makes the statement that one cannot expect a definite cure of intestinal toxemia until the intestine performs its function properly upon the average diet, and until the entire lower section of the intestine has been completely emptied. In accomplishing this purpose he states that he uses practically no laxative or other drugs, but that the best results are obtained in a purely dietetic way. Purgatives, including the enema, only hide the effects of constipation and retard its definite cure. In many cases all that is necessary is to change the diet so that it shall contain a sufficient amount of coarse foods to provide proper bulk; but if the disease has progressed so far as to produce very marked irritation of the colon, it may be that the bulky foods will be very poorly borne; and it is especially true that every such case is a law unto itself and finds relief only after patient and continual experimentation. There is no specific line of treatment which will relieve such conditions.

At the present time two remedies are being used with considerable success in relieving constipation, one of them being a refined paraffin oil, which is supposed to have no irritating or injurious effect on the intestinal tract, and the other is the Japanese seaweed, agar-agar. These remedies with careful regulation of the diet, according to the needs of the specific case, combined with the use of massage, manual movements, and hydrotherapy, constitute probably the most advantageous line of treatment.

It is possible to do much toward limiting the development of the anaerobic bacteria which are responsible for the putrefactive changes. It has been found that they do not thrive well in the presence of organic acids which result from fermentation; also that the lactic acid produced in the souring of milk has a very decided inhibitory effect. The investigations of Metchnikoff have greatly encouraged the use of soured

milk preparations. He claims these preparations to be practically a specific; but unfortunately not all cases are able to use the milk preparations, and while in many cases their use is advantageous, they fall short of being a panacea. Combe, in his work on Autointoxication, lays great stress on the use of carbohydrate material, particularly the cereal starches. Hirshling⁹ found that by mixing the proteins with cereal flours and artificially digesting them in an incubator, no aromatic bodies were formed, even after six days. It was also found that cane sugar had a decidedly inhibitory effect. While Combe may be a little over-zealous he no doubt deserves credit for having called attention to a very important point.

It has also been found that the intestinal flora can be changed somewhat by introducing the fermentative bacteria, or those which, acting on the carbohydrates produce organic acids. Hence, we have various preparations containing the *Bacillus Bulgaricus* and others which no doubt have a favorable effect.

As to methods of stimulating the glands of internal secretions, our knowledge is still quite imperfect. Organotherapy is receiving considerable attention and probably along these lines something will be accomplished which will be of value. When these glands have lost their ability to aid the liver in destroying absorbed toxic material we know at present no very reliable way to correct their insufficiencies.

The therapeutics of intestinal toxemia is still unsatisfactory, but we are making some progress and it seems probable that in the near future we shall know better how to protect our bodies from the toxic products absorbed from the intestinal tract.

THE DIFFERENTIAL DIAGNOSIS BETWEEN FUNCTIONAL AND ORGANIC HEART MURMURS WITH ESPECIAL REFERENCE TO LIFE INSURANCE.

COLLINS H. JOHNSTON, B.A., M.D.
GRAND RAPIDS, MICH.

In his classical work on "Diseases of the Heart" McKenzie states:

"So deep an impression have murmurs made in the minds of the profession that a large proportion deem them invariably an evidence of an unhealthy heart; the result of which is that we find every form of murmur looked upon as an evidence of

8. Jour. A.M.A., Jan. 11, 1913. p. 104.

9. Zeits. f. Phys. Ch. X. p. 306.

impairment, if not of disease. It is true that many physicians recognize and acknowledge that some functional murmurs may be harmless, but when they attempt in their writings to deal with this problem, their words convey so confused an impression, that it is evident they have but a hazy conception of the manner in which a harmless functional murmur is to be distinguished from a murmur which may be an indication of, or associated with, heart failure.

"Murmurs may be a physiological and normal sign and indicate no impairment of the heart's efficiency, nor foreshadow the oncoming of heart failure.

"I wish to insist upon this fact, for the possibility that a healthy heart may present a murmur is so opposed to the views of a great many of the profession, teachers and practitioners, that much harm is done to people who have to be examined for life insurance or for entrance to the services."

That life insurance companies are beginning to recognize the correctness of these views is shown by the acceptance of the following risks recommend by me to one of the oldest and most conservative companies during the past year:

CASE I. Mr. D. Loud mitral systolic murmur over the mitral area, rather definitely circumscribed. Can be heard a little to the left of the heart and as high up as the pulmonary area. When quiet the murmur follows the first sound, being nearer the first than the second. During this time the first sound can be distinctly heard. After exercise the murmur becomes merged with the first sound. The p m. i. is in the fourth interspace, an inch and a half inside the nipple line. Percussion shows the left border of the heart to be at least one inch within the nipple line. No hypertrophy of the heart present. No symptoms of heart incompetency. The murmur is not affected by inspiration or expiration, by sitting down, lying down or standing up, excepting that exercise of any kind makes it louder. Accepted.

CASE II. Mr. P., aged forty. Pronounced systolic murmur over the precordial area which disappears entirely at the end of deep inspiration when lying down. Audible at the end of expiration. Its intensity varies from one moment to another and at times it cannot be heard at all, especially when lying down. No accentuation of second sounds at base. Has never had any acute infectious disease such as rheumatism or "grippe," which might have caused endocarditis; the point of maximum intensity of the apex in the fifth interspace and at least one inch inside the nipple line. Accepted, although he had been rejected by several companies.

CASE III. Mr. S. Fairly loud mitral systolic murmur; heart normal in size. No accentuation of second sounds at base. No history of infectious diseases. The chest walls are thin and the respiratory sounds much louder than usual. Accepted.

CASE IV. Mr. T. D. Very loud systolic murmur. On deep inspiration the murmur diminishes very much in intensity and on deep expiration it becomes much louder. When lying down the point of maximum intensity is in the second or third left interspace, next the sternum. When standing erect it

is less pronounced than when lying down and is most intense over the apex beat; but when leaning forward the murmur becomes most intense over the pulmonary area. The point of maximum intensity of the apex is one inch inside the nipple line in the fourth interspace. After exercise the murmur becomes much louder. Percussion shows the heart to lie to the right of nipple line and there is no dilatation or enlargement of the right ventricle, no accentuation of second sounds at the base. There is no hypertrophy of the heart nor have there ever been any symptoms suggestive of impairment of the heart's efficiency. Accepted.

CASE V. Mr. E. While lying down during quiet respiration there is a slight systolic murmur over the apex. This entirely disappears at the end of deep expiration but is faintly heard at the end of deep inspiration, in a sitting posture; part of the time it is not heard at all. On standing it is audible over the mitral area, in ordinary respiration. After hopping about a moment and then lying down the murmur is intensified, but still completely disappears at the end of deep expiration and reappears at the end of deep inspiration. P. m. i. in the fifth interspace, an inch within the nipple line. No accentuation of second sounds at base. No enlargement of the heart. No suggestion of secondary symptoms. Accepted, although previously rejected several times.

CASE VI. Mr. E. J. H. A very loud systolic murmur heard most plainly over the mitral area, but also heard more or less distinctly all over the front of the chest, all over the left side and under the left shoulder blade. Second sounds at base not accentuated, P. m. i. beneath the fifth rib three inches from the median line. Percussion does not indicate that the heart is hypertrophied. He looks well and has a good history. I think it is the loudest murmur I ever heard. In the absence of hypertrophy and secondary symptoms he was accepted.

The following is a typical report in a case of organic lesion:

CASE VII. Mr. B., aged 47; mitral systolic murmur of but slight intensity when quiet, but becoming much louder after exercise. Is conducted downward and to the left; p. m. i. directly below the nipple in the fifth interspace. Area of cardiac dullness considerably increased to the left. Cardiac impulse increased in force and area. Some hypertrophy of the heart present. No secondary symptoms. Never had rheumatism, but two years ago was in bed ten days with the "grippe." Rejected, the hypertrophy of the heart showing that the murmur was organic in origin.

In order to ascertain the opinion of life insurance companies on these important questions, I recently sent a *questionnaire* to the medical directors of a number of the most prominent old line companies and received replies from twenty.

To my first question, "Do you accept heart murmurs of any kind?" Nine said "Yes" and nine said "No." Most of those answering

"Yes" added "if functional." One of those answering "No" gave as a reason "because men of that class do not have the same opportunity of reaching old age that a man does not affected."

In reply to my second question, "Is it possible by physical examination to differentiate between functional and organic heart murmurs?," fifteen answered "Yes" and five "No." One company said "not always." Another "yes, in many cases."

Some of the replies are worthy a more detailed statement as follows:

"I appreciate I am not in step with the profession when I assume a functional murmur is nearly as rare as a Jew in an Irish graveyard. I do not believe it is possible to differentiate between a functional and an organic heart murmur. Functional murmurs do not exist in life insurance. As soon as you take a functional murmur, you want to prepare for two mortalities."

"I do not believe it is possible for the majority of the average examiners to safely differentiate."

"If all our examiners were experts and able to differentiate between a functional and an organic disturbance of the heart, it might be safe to make the distinction. As, however, we cannot always have examinations made by skilful physicians, many of them being made by examiners in small country towns, we have been obliged to adopt the rule to either reject or postpone all such cases. In regard to your question whether it is possible by physical examination to differentiate between functional and organic heart murmurs, permit me to say that this is not always possible even with skilled examiners. There is no question clinically that what may be a functional murmur today may be an organic one in a comparatively short time."

"We do not accept risks with murmurs of any kind (if we know it) as we do not believe that we are able to pick the good from the bad. Personally, I do not believe it is possible by physical examination to differentiate between certain functional and organic heart murmurs and that the only sure differentiation is made by the subsequent history of the individual. If the murmur disappears permanently, the presumption is that it was a functional murmur. The burden of proof is on the applicant, and as long as he shows a heart murmur, we do not consider it safe to accept him."

"The mortality rate of risks with functional murmurs is greatly in excess of the normal. A large majority of them die from organic heart disease."

"We accept on a sub-standard plan risks suffering from mitral regurgitation, this being the only organic murmur we accept for any form of policy."

"Cases in which functional heart murmur is reported are not accepted unless we are acquainted with the skill of the examiner. We do think it is possible by physical examination to differentiate between functional and organic heart murmurs, but we are of the belief that the skill and experience

and judgment required is possessed by a minority of examiners for life insurance."

"I believe from a clinical standpoint that it is possibly by physical examination to differentiate between a functional and an organic heart murmur, but for practical life insurance work it is not always wise to do this."

"If a 'good' examiner in the field reports a heart murmur, we consider it organic and decline the risk. We have, however, certain examiners throughout the country who we believe are quite as well trained in physical examination as we ourselves and whose opinion we accept as final in these cases. If there is any doubt in our minds, we give the company the benefit of the doubt."

"We think it is quite possible in many cases to differentiate between a functional and an organic murmur. We find a great many so-called cardio-respiratory murmurs which we believe are functional and do not affect the risk. Certain pulmonary systolic murmurs which come to our attention we also consider functional."

"We follow Osler quite carefully in our determination of heart conditions. I do not believe we are frequently taking cases which are organic in origin, but I do believe we very frequently, in protecting the best interests of the company and to be on the safe side, turn down heart risks that might be safely taken. It is always better for the company, however, to be conservative in this class of risks."

My own experience in dealing with both life insurance companies and members of the medical profession is such as to lead me to believe that McKenzie is right when he says the profession has long looked upon cardiac murmurs as an evidence of diseases of the valves; and although it has long been known that in many cases which showed systolic murmurs during life, the valves were found intact at the post mortem examination, functional murmurs are still considered by many to be evidence of impairment of the heart's efficiency and as such call for treatment during the life of the individual.

It behooves us, therefore, to get a clearer idea of the difference between organic and non-organic heart murmurs. In order to do this we must first have an accurate knowledge of the signs and symptoms of lesion due to damaged valves.

We must always remember that murmurs are only guide posts which point out the way one is to look. There are other evidences which must be found before a diagnosis of valvular disease can be made. For instance, a systolic murmur however loud, of maximum intensity at the apex and propagated to the axilla, does not necessarily indicate incompetency of the mitral valve. Osler says there are heard in this region

a large group of what are termed accidental murmurs the exact nature of which is still doubtful. They are probably formed in the ventricle and are unassociated with hypertrophy or accentuation of the pulmonic second sound.

To diagnose mitral incompetency three conditions must be present:

I. A systolic murmur with maximum intensity at the apex which is propagated to the axilla and often heard at the angle of the scapula.

II. Enlargement of the heart.

III. Accentuation of the second pulmonic sound.

A common mistake is to diagnose aortic stenosis from the presence of a systolic murmur with its area of maximum intensity in the aortic area. Such a murmur may of course mean stenosis of the aortic orifice. But aortic stenosis is exceedingly rare and not once in a hundred times does a basal systolic murmur mean stenosis. The murmur may be due to other causes, such as thickening of the valves from arterio-sclerosis, dilatation of the aorta just above the valve, or anemia.

Aortic stenosis is one of the hardest of valvular lesions to recognize and before the diagnosis can be made, we must usually find:

I. A systolic murmur of maximum intensity at the aortic area.

II. A systolic thrill in or near the second right intercostal interspace.

III. Absence of the second sound which is produced by closing of the valve which cannot take place because they have become thickened and stiff.

IV. Hypertrophy of the left ventricle.

V. "A slow pulse of moderate volume and fairly good tension."

The murmur of anemia which may sometimes be mistaken for aortic stenosis is rarely so intense and is not associated with a thrill or with hypertrophy of the left ventricle.

Babcock states that the pre-systolic murmur of mitral stenosis is one of the two "truthful murmurs," the other being that of aortic insufficiency. These always give reliable information. All others will deceive on every possible occasion. The more trustworthy of the two is probably the pre-systolic murmur. It may be present one day and absent the next. I have seen Osler search for it four days in succession before finding it. It is a rough, harsh murmur leading up to and terminating in the first sound, which is short, sharp and more snappy than usual. It is best heard at the point of maximum intensity of the apex beat, or a little above it, and over a very limited area. This is one of the most important points in its differentiation.

The second sound in the second left interspace is loudly accentuated and often reduplicated as is also the second sound at the apex. The murmur is usually accompanied by a fremitus or thrill which "can be felt to terminate in a sharp, sudden shock, synchronous with the impulse. This most marked of physical signs is pathognomonic of narrowing of the mitral orifice and is perhaps the only instance in which the diagnosis of a valvular lesion can be made by palpation alone. The right ventricle is hypertrophied, the pulse small and often irregular." (Osler.)

The next most reliable murmur is that of aortic regurgitation. This being a diastolic murmur should never be mistaken for a functional one. Important points which should prevent the making of such a mistake are the characteristic collapsing, Corrigan pulse, the greatly exaggerated pulsation of the arteries, the increased capillary pulsation, the enlarged area of cardiac impulse, the presence of the apex beat in the sixth or seventh interspace and to the left, and the greatly increased area of heart dullness.

One of the most important and constant findings in cases of murmur due to organic lesions is enlargement of the heart. But valvular lesions do not *always* lead to hypertrophy. It depends upon the character of the lesion and the general condition of the individual. "It is possible to have a valvular lesion at the aortic or mitral orifice without compensatory hypertrophy, but this is rare." (Councilman. Private communication).

Warthin is also of the opinion "that valvular lesions do not always lead to hypertrophy. This depends upon the severity of the lesion and also upon other general conditions of the circulation. It is, however, very rare, for a valvular lesion of long standing and of any great degree of severity, at either the aortic or mitral orifices, to exist without more or less compensatory hypertrophy." (Private communication).

Cabot is of the opinion that mitral and aortic lesions almost always lead to hypertrophy, but that it cannot always be recognized during life. The enlargement may not occur towards or against the chest wall, but backward or downward against the liver.

Hypertrophy he says may be due to:

- (a) Increased arterial resistance,
- (b) Valvular lesions,
- (c) Myocardial changes,
- (d) Adherent pericardium,
- (e) Thyroid intoxication (Graves' Disease),
- (f) Unknown causes. (Many cases).

Cotton, of Montreal, is of the opinion "that while valvular disease is *usually* followed by hypertrophy, this does not *necessarily* take place." (Private communication).

He does not believe, however, that cardiac hypertrophy is as a rule dependent upon disease of the valves. Too much stress is laid upon valvular disease and not enough upon disease of the myocardium which is the great sufferer in acute rheumatism. He believes that hypertrophy is usually the measure of the degree of muscle invasion and that symptoms are of more value than physical signs. Inasmuch, however, as valvular disease is *in the vast majority of cases* followed by hypertrophy, and as this is one of the important marks of differentiation between functional and organic murmurs, the recognition of hypertrophy becomes of great importance.

Displacement of the apex beat downward and to the left is an important sign of cardiac hypertrophy. In healthy adults the apex beat is usually felt in the fifth left intercostal space immediately inside the nipple line. It may be in the fourth interspace and outside the nipple line in children and some adults. (McKenzie).

In diseases of the heart the situation of the apex beat is altered with the increasing size of the heart. A diagnosis of hypertrophy should not be made merely from a displacement of the apex for this may be due to other causes than hypertrophy, such as adherent pleura, fibroid tuberculosis, pleural effusion or pneumothorax. Neither should it be made from an increase in the *area* of pulsation, for here again the cause may be extrinsic to the heart. It should be remembered that the only *pathognomonic* sign of hypertrophy of the left ventricle, as far as the apex beat is concerned, is *increased* force of the beat (Price).

A large diffuse apex beat with a forcible, thrusting, heaving impulse during ventricular systole is characteristic of hypertrophy of the left ventricle. When the apex beat is diffuse, but the impulse diastolic in time, it indicates enlargement due to hypertrophy or dilatation of the right ventricle.

Cabot states that the determination of the transverse dullness at the level of the fourth interspace, and the location of the apex beat, give on the whole the best evidence of the size of the heart. When the apex beat is faint or absent it is of great importance to accurately percuss the left border of the heart. In case the apex beat cannot be located with the patient on the back, it is well to test the impulse with the patient

lying on the left side. In some cases the presence of an apex beat in the sixth interspace, which is a space below where it should be, can be recognized only with the patient in this position. If the apex beat is felt in the sixth interspace it is valuable evidence of enlargement of the heart. It must not be forgotten, as Cowan states, "that in healthy individuals the apex beat is freely movable, and may be felt even a couple of inches outside its usual site if the individual lies on his left side."

The most common symptoms of organic cardiac disease are undue breathlessness or fatigue on exertion, palpitation, precordial distress or pain, and a sense of tightness across the chest on or after exertion. Breathlessness on exertion is one of the most important symptoms but is also a symptom common to many affections besides heart disease. Palpitation is not a reliable sign of heart failure, as it may occur for instance in neurotic people and is often reflex in origin. While pain in the precordium is a frequent symptom of cardiac failure, it often occurs in functional heart affections and is frequently absent in organic disease. The most characteristic feature in pain due to heart disease is that it is brought on by exertion, though it may not appear until some hours later. (Price).

Functional or accidental murmurs may be heard in any situation over the heart, but are most frequent in the pulmonic and mitral areas. All authorities agree that they are usually systolic in time. Cabot states that the majority of all murmurs heard over the heart are unassociated with valvular disease and that 99 per cent. of functional murmurs are systolic. The majority of them are usually heard with maximum intensity in the region of the pulmonary valves where Osler says murmurs are extremely common but valvular lesions exceedingly rare. This is a favorite situation for cardio-respiratory and anemic murmurs. "All thin-chested persons, all young children, almost any person after great exertion, any child with a little fever, may have a systolic murmur in the second left intercostal space." It is an every day affair, and in the absence of secondary signs or symptoms it should not be difficult to differentiate a functional murmur in the pulmonary area from one due to valvular disease.

Drummond divides non-organic murmurs into three classes—anemic, cardio-muscular and cardio-respiratory.

Cabot divided them into functional, which he

says are especially apt to be associated with anemia, and cardio-respiratory.

The murmurs of anemia may be heard at any orifice, but are usually heard at the second or third left interspace. They may also be heard at the apex, at the aortic cartilage and over the tricuspid area, but are comparatively infrequent in these situations. They are soft in character and low in pitch. They are louder in the recumbent than in the upright position; their loudness is increased by violent cardiac action; they are loudest just at the end of expiration or beginning of inspiration; they are not transmitted away from the heart, and they are systolic in time. They are associated with signs of enlargement of the heart or with accentuation of the pulmonary second sound.

Cardio-respiratory murmurs are fairly common. They are greatly affected by position and respiration. They are most marked in inspiration, especially at the end of the act; but may be heard in both inspiration and expiration. They are systolic in time and are loudest at the apex, but may be heard as high as the second rib, in the axilla and below the angle of the left scapula; but as a rule the area over which they are heard is very limited.

Functional murmurs are almost always systolic in time. By far the greater number of them have their point of maximum intensity in the pulmonic area; but they may be heard loudest at the apex, or over the middle of the sternum when they are supposed to be tricuspid in origin, or in the aortic area. They are as a rule soft and blowing in character, but so may be some organic murmurs which may resemble functional murmurs so closely in their character and propagation that it is not possible to differentiate one from the other by auscultation alone. A loud coarse murmur, whatever its other points of resemblance may be to functional murmurs, is likely to be organic, especially when persistent. Functional murmurs are not associated with any evidence of enlargement of the heart nor with accentuation of the pulmonic second sound. They are usually heard over a limited area, but are well heard to a little distance from the point of maximum intensity in all directions, and are not transmitted to the left axilla or to the back. In some cases functional murmurs appear only when the heart is excited or when the individual stands and disappear when the heart becomes quiet or the individual is at rest. Again, functional murmurs are found which are present when the

heart is at rest and which disappear on exertion or excitement. (McKenzie).

Organic murmurs may occur at any period of the cardiac cycle. Functional murmurs are practically always systolic. Systolic organic murmurs are usually well propagated toward the left axilla and to the back or into the great vessels of the neck, especially upon the right side. They are often soft and blowing, occasionally coarse and loud, sometimes musical. They are sooner or later associated with signs of enlargement of the heart, accentuation of the pulmonic second sound, as well as with signs and symptoms of stasis in other organs.

Under some circumstances it may be a matter of no small difficulty to differentiate between accidental and organic murmurs. If painstaking inquiry fails to elicit a history of acute rheumatism or any other infectious disease likely to have set up endocarditis, it furnishes some evidence of the non-organic nature of a murmur. This is strengthened if the patient is manifestly neurotic, anemic or chlorotic, or if there are digestive disturbances that are likely to produce disturbances in the nervous system. If by reason of the patient's excitability the heart is easily disturbed or there is a history of cardiac over-strain, if the patient is given to vicious habits, sexual excess of one kind or another (both masturbation and intercourse), over indulgence in tea, coffee, eating, drinking, etc., the conclusion is strengthened that the murmur is accidental. (Babcock).

As a general proposition it may be stated that functional murmurs are not accompanied by secondary changes in the size of the heart or by circulatory disturbances such as generally depend upon valvular disease. The great majority of anemic patients have a mitral systolic murmur and the second pulmonic sound may also be accentuated. It must not be forgotten also that in children up to the twentieth year of age the second pulmonic sound is frequently normally accentuated.

Some of the most important and valuable diagnostic points in differentiating functional from organic murmurs are contained in two of the answers to the third query of my *questionnaire* already referred to: "How would you differentiate between functional and organic murmurs?"

"We accept risks who have what we believe to be cardio-respiratory and functional murmurs, if the trouble is very slight and without noticeable effect upon the applicant. We do not

believe it is always possible to differentiate between functional and organic murmurs. For this reason we give the company the benefit of any doubt.

"In favor of an organic lesion in doubtful murmurs are the following points:

- I. Previous rheumatic or syphilitic history.
- II. Hypertrophy of the heart.
- III. Murmurs increased by exercise.
- IV. Murmurs transmitted to axillary or scapular region.
- V. Location, i. e., either at apex or base.
- VI. History of duration for some years.
- VII. Constancy, i. e., always present, not intermittent.
- VIII. Does not disappear on changing position.
- IX. Party is not anemic.
- X. Chest is not deformed so as to cause pressure on the heart.

"In favor of the murmur being functional we would recognize;

- I. Failure of the above signs.
- II. When the murmur disappears on exertion.
- III. When murmur is not transmitted.
- IV. When heard over the area of the pulmonary valves.
- V. When it is intermittently present.
- VI. When it disappears on holding the breath and on changing the body position.
- VII. When there is well marked anemia or a decidedly depressed sternum or the party is a tall, spare young person.

"We are doubtful as to the organic character of the lesion when the above signs are found.

"The question of cardiac murmurs is one of the most troublesome we have and one on which we find the widest difference in reports made by different medical examiners on the same case.

"We frankly acknowledge we make mistakes ourselves and are sure the best medical examiners will at times fail to find such murmurs as are distinctly heard on appeal to the home office.

"As a post mortem scarcely ever decides the real cause of these very slight heart murmurs which are the ones giving all the trouble, it is not likely the subject will be cleared up for some years to come."

"I think it is usually possible by physical examination to differentiate between functional and organic heart murmurs, though at times it is extremely difficult. I am a little skeptical about functional heart murmurs, at least as reported to life companies, for the reason that the mortality in large groups of these lives has been found to be decidedly in excess of the normal, suggesting that either there is consid-

erable difficulty about distinguishing between functional and true organic murmurs, or if functional, that they express a lack of resistance to disease which has to be taken account of, at least as concerns their insurability as life risks.

"A murmur is probably functional which:

- (a) Does not increase on exertion,
- (b) Disappears at some time of the respiratory cycle.
- (c) Disappears on change of posture,
- (d) Is not transmitted,
- (e) Is not accompanied by hypertrophy."

"Our basis for differentiating between organic and non-organic murmurs rests chiefly with the question as to whether the murmurs are heard constantly throughout the respiratory cycle. Where such is the case, the characteristics of the sounds being typical, we assume the condition to be caused by valvular defects and do not accept the risk.

"On the other hand, when at any phase of the respiratory act the heart sounds are clearly heard and the murmur is absent, it is assumed that the sound is due to some other cause than valvular disease and is of no significance from our standpoint, and we therefore accept these cases without hesitation."

McKenzie states that "the estimation of the significance of functional murmurs is not based on the murmur itself, but on the functional efficiency of the heart and on the presence or absence of other signs of cardiac affections, such as the size, rate and rhythm.

"If we find in a heart of normal size and rhythm a systolic murmur with absence of any sign that would indicate that it is definitely organic in origin, and with a good functioning organ, we may conclude that the heart is perfectly normal. If there be evidence of weakness or other signs of abnormal conditions present, then the opinion should be based on these other signs and not on the murmur."

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Security Mutual, Binghamton; Equitable, Des

Moines; John Hancock, Boston; New England Mutual, Boston; Union Central, Cincinnati; Travelers, Hartford; Phoenix, Hartford; Equitable, New York; Penn Mutual, Philadelphia; Mutual Benefit, Newark; New York, New York; Mutual, New York; Penn Mutual, Philadelphia; Mutual Benefit, State, Indianapolis; Reliance, Pittsburg; Fidelity Mutual, Philadelphia; Pittsburg Life and Trust Company, Pittsburg; Michigan Mutual, Detroit; Connecticut Mutual, Hartford.

PROPAGANDA FOR REFORM.

Waterman's Tonic Restorative.—Examination in the A.M.A. Chemical Laboratory showed this "epilepsy cure" to be a bromid mixture, containing bromide equivalent to 17.6 grains potassium bromid per fluidram. The recommended daily dose of five teaspoonfuls corresponds to 88 grains potassium bromid. Caring little for the health or safety of those who use the nostrum, the promoters advise an increase dosage if required "to stop the 'Fits,'" thus leaving the dosage with the user, who is assured that the nostrum is "safe" (*Jour. A.M.A.*, March 6, 1915, p. 847).

Dr. Kline's Nerve Remedy.—This "epilepsy cure" is sold by the R. H. Kline Company, 45-47 E. 20th St., New York City, this being the same address as that of the Lexington Drug and Chemical Company which sends out the waterman "epilepsy cure" (see above). Examination in the A.M.A. Chemical Laboratory showed this bromid mixture to be practically identical with Waterman's Tonic Restorative (*Jour. A.M.A.*, Mar. 6, 1915, p. 848).

Liquid Paraffin (Liquid Petrolatum).—W. A. Bastedo reports the results of a clinical investigation made under the auspices of the Therapeutic Research Committee of the Council on Pharmacy and Chemistry to determine the relative efficiency of the different preparations on the market. Three specimens were sent out: a heavy Russian liquid petrolatum a light Russian liquid petrolatum and an American liquid petrolatum—being distinguished only by number or letter. From extended trials in hospitals it is apparent that all acted alike. Only slight differences as to palatability were noted by some (*Jour. A.M.A.*, March 6, 1915, p. 808).

Strychnin and Caffein as Cardiovascular Stimulants.—F. H. Newburgh has studied the effects of strychnin and caffein in acute infectious diseases. He finds that strychnin sulphate in medicinal doses does not increase the output from the heart, slow

the pulse or materially raise the blood pressure. He concludes that there is no logical basis for its use as a cardiovascular stimulant. Further, he finds that caffein sodio-salicylate, in ordinary dosage, does not raise the blood pressure or slow the pulse. His experiments did not determine if caffein increased the blood flow (*Arch. Int. Med.*, Mar. 15, 1915, p. 458).

Colchi-Sal.—Colchi-Sal is sold by E. Fougera & Co., Inc., in capsules stated to contain the "active principle" of cannabis indica, colchicin, methyl salicylate and "appropriate aromatic adjuvants." It is recommended in "Gouty and Chronic Rheumatic Manifestations," "acute cases of Gout," "intestinal autointoxication or dyspepsia," "billious headaches," etc. The Council on Pharmacy and Chemistry found Colchi-Sal ineligible for New and Nonofficial Remedies because the indefinite character of the "active principle" of cannabis indica made its composition secret, because it was advertised indirectly to the laity, because unwarranted therapeutic claims were made for it, because the name does not indicate the habit-forming cannabis indica and because the composition was held unscientific (*Jour. A.M.A.*, March 20, 1915, p. 1016).

Neurilla.—To show how a practically worthless mixture may be exploited by means of ill-considered testimonials, the Council on Pharmacy and Chemistry publishes a report on Neurilla, apparently the sole output of the Dad Chemical Company. Neurilla, according to the manufacturer's claims, depends for whatever virtues it has on two generally discarded drugs, skullcap and passion flower, present in unstated amounts, "aromatics" and 20.3 per cent. alcohol. It is advertised as a "nerve tonic" and is said to be "A Valuable Aid in the Treatment of Fevers, Colds, La Grippe, etc." Inquiries sent to some of the physicians whose testimonials were used to promote Neurilla brought replies indicating these testimonials to have been given thoughtlessly and on insufficient experience. In most cases the writers stated that they had abandoned the use of Neurilla long ago (*Jour. A.M.A.*, Mar. 27, 1915, p. 1093).

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, March 10, 1915

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

THE EXTENT OF INSANITY AND FEEBLEMINDEDNESS AND THEIR CAUSES IN MICHIGAN.

ALBERT M. BARRETT, M.D.

Professor of Nervous Diseases and Psychiatry, University of Michigan.

There were in the Michigan institutions caring for the insane on June 30th, 1914, 7703 individuals.

Since 1905 the state has appropriated \$12,327,259 for their maintenance in public institutions and for special purposes.

In 1905 the cost per capita to the population of the state was 37.74 cents.

In 1914 this had increased to 45.24 cents per capita of the state's population.

In Michigan the ratio of insane in institutional care is 27 per 10,000 of the general population. This ratio is about the same as that of states having the same general geographic position and less than in certain older states with larger facilities for caring for the insane.

There has been an increase of 145.2 per cent. of the insane in institutional care in the past twenty-four years. In large part this increase is due to an increase of institutional capacity.

There has been an increase of 43.7 per cent. in the total admissions to the Michigan state hospitals for the insane in the past fourteen years.

The annual admissions of new cases of insanity has increased 62.7 per cent. between 1901 and 1914.

The fact that the ratio of admissions estimated to 10,000 of the population has increased from 4.5 in 1901 to 5.9 in 1910 indicates that the character of the population has changed.

Between 1901 and 1910 the population has increased 16.1 per cent. and the annual admis-

sions of new patients has increased 51.3 per cent.

The foreign born population furnishes a much larger proportion of the annual admissions to the state hospitals for the insane than does the native born. The ratio for 10,000 of foreign born being 8.9 and for native born 5.4.

Native born of foreign parents have a rate of admission 166 per cent. greater than the native born of native parents.

Of the foreign population Russia including Poland, Finland, Scotland and Ireland have a higher rate in relation to their numbers in the state than do other foreign nationalities.

The highest rates of admission are in districts having a population of 2,000 to 5,000.

All counties having large state hospitals for the insane have the highest ratio of admissions, in proportion to their population. It is supposed that fewer insane individuals in these counties escape commitment to institutions owing to their proximity and greater familiarity with institutional administration. There is reason to believe that the rate in these counties approaches the truer number of insane needing commitment than in counties having lower rates.

The counties of the upper peninsula have relatively higher rates in proportion to the population than those of the lower peninsula.

Insanity is most liable to occur between the ages of 30 and 39. The age of greatest frequency in Michigan has changed in the past twenty years from 25, to 35 to 40. Within recent years there has been a great increase in the proportion of admissions of individuals above the age of 50.

In general, males contribute a relatively larger proportion of insane individuals than do females. There has in recent years been a

relatively larger increase in the proportion of male admissions than females.

Alcohol is the direct cause of insanity in 8.4 per cent. of all admissions to Michigan state hospitals for the insane.

Alcoholic insanity is 6.5 per cent. as frequent in males as females.

Alcoholic insanity is relatively frequent among females, this sex contributing 13.2 per cent. of all cases of this disease.

Thirty-one and two-tenths per cent. of the insane are more than moderate in their use of alcoholic drinks.

Drug habits are productive of only a small proportion of the insane admitted to the state hospitals.

Syphilis is the cause of 12.9 per cent. of the cases of insanity annually admitted to the Michigan state hospitals. It was the direct cause of insanity in 17.5 per cent. of all males and 6.65 per cent. of all females admitted. Twenty-one and six-tenths per cent. of all insane have syphilis as shown by the Wassermann test.

The conjugal mates of 38.18 per cent. of all individuals having paresis have syphilis.

The mental status of 3,334 individuals resident in the seventy-nine county infirmaries in the state were studied by this Commission. Of this number two-fifths were either insane or mentally defective. There were 407 who were insane, 114 were epileptic, 710 who were feeble-minded and eighty-one whose mental defectiveness was unclassified.

Of this group the feeble-minded, both because of the largeness of their numbers and because of their excessive cost to the public are by far the most important. While the average term of residence at public expense, for each of the individuals of normal mentality in the county infirmaries was only 3.2 years, at a total cost for each individual of \$552, the average term of residence for each feeble-minded individual was 9.3 years, at a total cost for each individual of \$1,419. The 710 feeble-minded individuals now resident in our county infirmaries have cost the public for maintenance in these infirmaries over \$1,000,000. One of the feeble-minded individuals who is now a resident in a county infirmary of the state has, together with other members of the family, who also have been in county infirmaries of the state, have cost the public for their maintenance over \$17,500.

The states and counties are themselves very largely responsible for this immense burden. Of these 710 feeble-minded individuals nearly

half were born in the state of Michigan. Moreover, of those who were born in the state 60 per cent. were born in the county which is now supporting them. This means that the state—even that the county—is very largely breeding its own feeble-minded class.

This breeding is taking place by allowing those of defective mentality to marry and have offspring. In some instances, the county officials are even instrumental in bringing about such marriages. Cases of this shortsightedness were found by this Commission. In one such case, the county officials allowed the marriage of a feeble-minded woman who only had the mentality of a child of seven and one-half years and who was sexually irresponsible, having already given birth at the county infirmary to an illegitimate child. This woman had been a county charge for three years and the county officials in order to escape a further cost of supporting her allowed her to be married from the county infirmary by a man of questionable mentality. They were too shortsighted to see that in a few years the county would have to support feeble-minded offspring which will doubtless result from this union.

The number of feeble-minded is also increased by the unmarried feeble-minded woman of child-bearing age, when she is not properly segregated. Over 30 per cent. of the feeble-minded women in the county infirmaries have given birth to illegitimate children. The high-grade feeble-minded woman has strong sexual desires, but weak inhibitory powers. Consequently, as long as the state does not provide for their effective and permanent segregation, they will go on giving the state feeble-minded children, which the state in turn will have to support. There were 137 women of child-bearing age in the county infirmaries. Most of these women are not effectively segregated and many of them are only temporarily in the custody of the county. There were on June 30, 1913, fifty women of childbearing age on the waiting list of the Lapeer Home and Training School. Until all these cases are permanently segregated, the state is menaced by them.

Moreover, there are continually being discharged from the Adrian Industrial Home for Girls those of childbearing age who are of defective mentality. Of the 386 girls in this institution who were examined by the investigators of this Commission 131 or 34 per cent. were feeble-minded. These girls cannot be detained at the institution after they are twenty-one. They go forth—potential mothers of

feeble-minded children. How many more millions of dollars their offspring and the offspring of the remainder of the feeble-minded women who are not under permanent custodial care are going to cost the people of Michigan cannot be estimated. But if we do not want to pay millions tomorrow we must pay thousands today in order that this class may be placed in institutions where they will no longer be able to reproduce after their own kind.

The feeble-minded girls at the Adrian Industrial Home also complicated the problem of the reformation and training of delinquent girls in the institution. This same statement may be made concerning the feeble-minded boys at the Lansing Industrial School. One hundred and seventy-one, or 21 per cent. of the 809 boys examined at the institution were feeble-minded. The feeble-minded delinquent cannot be reformed. Placed in a reformatory institution he simply clogs the institution. He should otherwise be taken care of.

RECOMMENDATIONS.

In view of the facts shown in this report, the Commission makes the following recommendations:

1. In view of the excessive amount which the foreign population, in proportion to the numbers in Michigan, contributes to the insane and mentally defective class, it is urged that a more effective control and supervision be maintained by state and federal authorities.

2. In view of the fact that matters relating to the insane and mentally defective are essentially problems of the state as a whole, rather than the individual counties, it is desirable that the state maintain a more centralized control and supervision of all institutions having custody and treatment of the insane and those mentally defective or epileptics.

3. In view of the large and increasing number of discharged patients from hospitals for the insane who are continuing to live in unrecovered mental state outside of institutional care and in view of the absence of any contact between state institutions and the families of the insane and mentally defective, this Commission recommends the enactment of a law providing for the employment of a field worker by each institution and the continuance, by the institution, of a systematic supervision over those who have been discharged.

4. In view of the certain knowledge we possess, of the influence of syphilis in the production of insanity and physical and nervous

degeneracy, it is urged that continued efforts be made towards bringing to public attention the dangers from this disease.

5. In view of the known influence which alcohol has in the production of insanity, and conditions of physical and nervous degeneracy, it is urged that the public be educated to an appreciation of the dangers of intoxicating drinks.

6. It is recommended that a law be enacted providing that no child be admitted to any of the state institutions caring for juvenile delinquents or dependents, without a mental examination being made by a competent person, and that provision be made for the employment at each of these institutions of a person specially trained for this purpose.

7. In view of the lack of any centralized statistical consideration of matters pertaining to the insane and mentally defective classes, the Commission recommends the enactment of a law requiring all institutions caring for these classes to furnish the State Board of Health such information as the Board may require concerning these classes and their relations to public health; that the State Board of Health continue the statistical investigation carried on by this Commission and that ample provision be made for this work and that the statistics be published by the State Board of Health in its annual report.

8. In view of the continued menace to the public health from the increase of the feeble-minded and insane which is the result of the marriage of those who are insane or feeble-minded or physically diseased it is recommended that a law be enacted making it obligatory that the name of each individual who may be cared for in a public or private institution in Michigan in which are treated or held in custody those who are insane, delinquent, dependent, mentally defective or epileptic, be filed in the office of the State Board of Health by the Superintendent or officer in charge of such public or private institutions. Such names shall be held in privacy. Before the clerk of any county in Michigan may issue a license for marriage, he shall submit the name of the applicant to the Secretary of the State Board of Health. If any information is in the official possession of the State Board of Health which shows that such individual has been adjudged insane or shown to be feeble-minded, epileptic or afflicted either with active or latent syphilis or gonorrhea, the clerk shall be so informed and the license shall not be issued.

9. In view of the following facts:

First, That the laws prohibiting marriages of defectives are not enforced;

Second, That the sterilization act is infrequently used;

Third, That the expense of the remaining measure, segregation, may be decreased by its application to but one sex;

Fourth, That the feeble-minded women play a more definite and tangible part in the problem of defectiveness than does the feeble-minded man.

And in view of the fact that:

First, There are, at least 137 feeble-minded women of childbearing age in county infirmaries, who are neither effectively nor permanently segregated;

Second, There are at least 131 feeble-minded girls at the Adrian Industrial Home who are neither subjects for reformatory treatment nor desirable as mothers after their discharge;

Third, There were, June 30, 1914, fifty feeble-minded women of childbearing age on the waiting list of the Lapeer Home and Training School, whose full capacity is already reached.

We recommend that some adequate state provision be made either in the establishment of a special institution or by increasing the capacity of the Lapeer Home and Training School, for the custody of the feeble-minded woman of childbearing age.

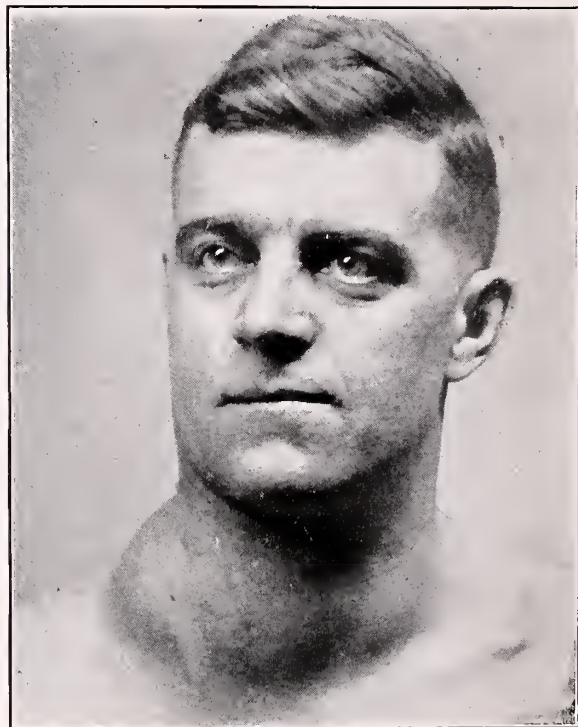
REPORT OF A CASE OF MEDIASTINAL TUMOR.

JAMES G. VANZWALUWENBURG, M.D.

(From the Clinic of Roentgenology, University Hospital, Ann Arbor, Michigan.)

I wish by this case to show one of the incidents which may happen in the treatment of mediastinal conditions. This man came in last February for Hodgkins disease. His early history is interesting, although I can only briefly recount it. A gland in the neck was first discovered when he was four. It was removed and diagnosed as a fatty gland and the neck was cleaned out. The glands reappeared subsequently. Last year in February he came here for relief. A single gland was excised from the back of the neck. The pathologic report was Hodgkins disease with sarcomatous degeneration. He had a neck which was very much larger than at the present time, also some glands in the axilla. An X-Ray showed a small

mass in the mediastinum. We found that there was no difficulty about tolerance and we gave him full doses. He remained in the Hospital for some time and finally went home and resumed his work. He holds a very responsible position in Detroit. He came in about once a month and was rayed. About August, a second radiogram of the chest was taken, showing that the mediastinal mass had become very much smaller. We were getting along so famously that two weeks ago when he was last here, I proposed that if he had no further difficulty he should stay away two months. Instead of that he turned up yesterday morning. He com-



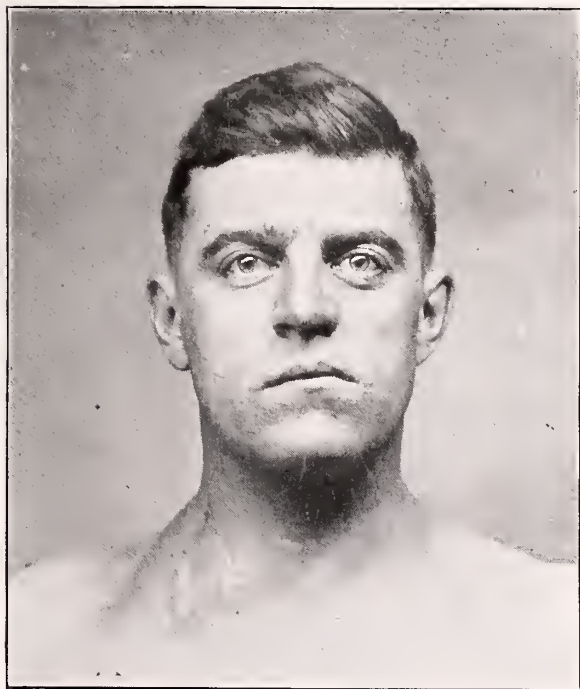
HODGKIN'S DISEASE.

Figure 1. Photograph, February 27, 1914, showing tumor in the right neck.

plained that he was getting short of breath, had to sit up at night, his neck and face were swollen, and he had severe paroxysms of coughing. We took another radiogram.

The circumstances are these. We have been very successful in keeping down the tumor in the neck, but for the last half year we have taken the intrathoracic conditions more or less for granted. I went on the assumption that unless he had symptoms the mediastinal conditions would take care of themselves, and that he would report any trouble. But the trouble when it appeared came very suddenly, until the man really is quite distressed. The situation now is critical. The extent of the mass is clearly evident on the plate, and you can

see that his face now is puffy. His neck is swollen. It is not a true edema, but it is quite distinct. You will notice the enlargement of



HODGKIN'S DISEASE.

Figure 2. Photograph, April 24, 1914, showing improvement in 8 weeks.

the vessels over his arms due to pressure upon the return circulation. His eyes are distinctly more prominent than they were before, and his voice is somewhat affected.

This case presents a rather curious problem. In the treatment of Hodgkins, if a full dose is given, almost invariably immediately following the dose there is a primary swelling of the gland. If these glands should happen to lie in the thorax and are already seriously compressing the trachea (as the X-Ray shows), the danger is not a small one, that by a full dose you may produce sufficient swelling of these glands to complete the obstruction of the trachea and cause serious trouble. Just how much of his dyspnea and cough is due to secondary trouble in the larynx is not at all clear. So I am having the otolaryngologists see him before I ray him. I frankly am afraid to ray the whole mass with a full dose at one sitting, and I think the procedure to be followed is to take the portion to the right of the median line on one day, screening off the left side, and treating it both from before and behind, being careful not to "spray" on the other side. Then, if he gets through the next three or four days comfortably, by which time the primary reaction should disappear, I will take the other side, and at the

expiration of ten or fourteen days he will probably be in good shape to receive a thorough ray of the whole tumor from four directions.

Our experience with this tumor is that it is very amenable to X-Ray treatment. If I can tide him over the first three or four days, I am confident that I can put him back where he will be comfortable again.

DISCUSSION.

DR. LILLIE: We have not seen this patient yet, but it would be very difficult to say the extent, from the indirect method of examination, of pressure upon the lumen of the trachea, and the direct method would be contraindicated because of his intrathoracic condition. However, if the lumen of the larynx and trachea are not too greatly interfered with, there would be no doubt but that we could pass a catheter down through the tract to the obstruction and relieve the dyspnea that he might have following the severe reaction of the X-Ray treatment. The voice sounds like a recurrent paralysis, but those things are so indefinite that an examination of the larynx is the only thing that will reveal the laryngeal condition.

It is very interesting to see the improvement in this case of Hodgkins that has undergone sar-



HODGKIN'S DISEASE.

Figure 3. Radiogram, February 11, 1914. Tumor extends to about the level of the first intercostal space and is apparently continuous with the mass in the neck. Displacement of the trachea distinct in the cervical region.

comatous change. We lost a patient with lymphosarcoma this last fall who had been under treatment for

nearly a year. He had large masses in his neck, the process having begun in the tonsil. He would not yield to Colley's serum, and died shortly after leaving the Hospital.



HODGKIN'S DISEASE.

Figure 4. Radiogram, March 8, 1915. The mass is almost entirely intrathoracic. Cervical trachea in the median line. "Sabre-sheath" deformity of the trachea on the level of the second costal cartilage. Note the enormous increase in the volume of the thorax due to "obstruction emphysema."

REPORT OF A CASE OF CARDIOSPASM WITH DILATATION.

GEORGE VAN RHEE, A.B.

(From the Clinic of Internal Medicine, University Hospital, Ann Arbor, Michigan.)

Mrs. M., age 31, housewife, American. The patient entered the medical service, January 23, 1915 on account of vomiting and pain behind the ensiform.

Family History.—Negative.

Personal History.—Patient had chorea at the age of 14, which lasted one and a half years and typhoid at 21 with good recoveries. There is no history of specific infection.

The patient's trouble began six years ago with a severe pain in the epigastrium accompanied by a choking sensation extending upward into the esophagus and so severe that the patient became blue in the face. Solid foods,

such as meat and cabbage caused the greatest amount of pain and vomiting. She had very little difficulty in retaining liquid foods until about twelve weeks before entering the Hospital. Since that time she has vomited food in the morning which she had taken the day before. Two years ago last August the patient was operated upon for this trouble with no relief.

Upon physical examination the patient showed marked emaciation. She weighs only ninety-four pounds, having lost about fifty since her trouble began. The patient is of very neurotic temperament. A Wassermann examination of the blood is negative. Blood and urine examinations are negative.

Examination of the vomitus showed absence of hydrochloric acid, remains of a previous meal, sareines, nonmotile bacilli and lactic acid. A sixteen millimeter olive tipped bougie was passed by Dr. Marshall to a point forty-five centimeters from the teeth and no resistance was met with at any point. On moving the bougie backward and forward approximately forty centimeters from the teeth no resistance could be felt. An X-Ray examination showed a benign stricture of the cardia and dilatation of the esophagus.

Until within the last twenty years cardiospasm was a relatively rare condition. In 1878 Von Ziemsen collected the first series of cases of idiopathic dilatation of the esophagus. The report was based mostly on post mortem findings, little being known of the history of the cases. In 1904 Mikulicz estimated that one hundred cases could be collected from the literature. Plummer reported forty cases in 1908. Hyer, Einhorn, Erdman and Russell and others have made valuable contributions to the literature of the subject.

The disease has been attributed to the following causes:

1. Primary cardiospasm.
2. Primary atrophy of the musculature of the esophagus.
3. Simultaneous presence of cardiospasm and paralysis of the circular fibers of the esophagus brought about by paralysis of the vagus.
4. Congenital predisposition.
5. Primary esophagitis.
6. Kinking at the hiatus of the esophagus.

According to Gootstein motor disturbances of the esophagus are classified as follows: 1. As hyperkinetic, in which spastic contractions of the muscles of the esophagus exceed the physiologic normal. 2. Hypokinetic impairment of the muscle tone.

Primary atony is a possible but a rare condition. In the study of a large number of cases

reported, the history shows that a retention of food is most convincing evidence that a spasm precedes the dilatation. Furthermore, early muscular hypertrophy is found in nearly all cases coming to autopsy, both in cases having a dilatation and those without any.

The theory of congenital predisposition has received a great deal of consideration. Myer thinks that cardiospasm has a congenital basis. He has found the condition present in individuals with a tendency toward the general asthenic state. These individuals are characterized by a slender, gracile build, long, flat thorax, acute costal angle, floating tenth ribs, pulsating aorta and splanchnoptosis.

The real cause of cardiospasm is largely speculative. The consensus of opinion is that the condition is of nervous origin, but why it develops in certain persons has never been satisfactorily determined. One inclines to this belief from the fact that mild cases are often relieved by a single treatment or by passage of the tube in simple stomach analyses. A few cases have been reported associated with gross lesions of the esophagus, as ulcers, fissures, and small carcinomata in the cardia. Esophagitis and ulcer of the esophageal wall not in close proximity to the cardia are regarded as secondary to cardiospasm.

In the development of cardiospasm three stages may be recognized. 1. The stage in which the peristaltic contraction of the esophagus is sufficient to force food through the spastic cardia. This is characterized clinically by discomfort, pain and choking sensation, as shown in the history of the case under discussion. 2. The peristaltic force of the esophageal muscle is no longer able to overcome the resistance of the contracted cardia and the food is immediately regurgitated. The increased work of forcing the food past the cardia results in early hypertrophy of the esophageal muscles. As the spasm becomes more and more severe the esophagus becomes less and less able to overcome the obstruction and atony and dilatation result. 3. When the esophagus begins to give way the dilatation is rapid. This stage is characterized clinically by the retention of food in the esophagus and its regurgitation at irregular intervals after ingestion.

In a typical case of cardiospasm, symptoms which are pathognomonic may be divided as follows:

Cardiospasm without food regurgitation. In most cases the attack occurs suddenly and unexpectedly when the patient is at the table.

A spasmodic choking sensation is felt at some point in the esophagus usually at the cardia and radiating to the back of the neck. It is rarely described as a pain. Some locate the discomfort entirely in the epigastrium, left hypochondrium or in the upper part of the esophagus. In the second stage the food is regurgitated immediately after swallowing. During the early part of the disease the attacks occur periodically or a mild spasm is continuous with periods of marked exacerbations of the disease. In this patient it has always been present and still occurs at the present time. While in the Hospital the patient has had three such attacks. The first portion of each meal is retained. After filling the sac further, food is regurgitated or the preceding portion is forced into the stomach. The more fluid portion usually seeps through the cardia, as was the case with this patient. The solid food with much mucus is either regurgitated at irregular intervals or remains in the sac until the next meal. The latter is no uncommon occurrence. In these patients the vomiting is painless and rarely accompanied by nausea.

In the diagnosis of cardiospasm the following must be considered:

First, One must determine whether the food is regurgitated from the esophagus or stomach. The usual test meal is given. If obstruction exists sufficient to prevent the food from entering the stomach, it is given with a tube. In this case both were impossible. At the end of an hour the stomach contents are removed in the usual manner and then the esophageal contents are also removed. The esophageal contents are either alkaline or neutral. Lactic acid, sarcines and bacilli are often found. In the case under discussion all three were found.

Second, The existence and character of the obstruction must be determined. This is done first of all with an ordinary stomach tube when the spasm is not too great. In this event a wire stylet is used. An olive tipped bougie which was used in this case may be employed, or a silk thread and whale bone staff as advised by Plummer. Finally a radiograph may be made.

Third, The presence or absence of esophageal dilatation and its shape and size must be ascertained. This is done by attaching a rubber dam balloon to the lower end of a stomach tube in such a manner that the tube communicates with the interior of the balloon. A spherical or oval silk bag about twenty-two millimeters is drawn over the balloon and fastened to the tube. This is introduced into

the stomach with a whale bone staff and distended with water under sufficient pressure to make the stylet tube and balloon form a solid sound. The sound is drawn up to locate the cardia and collapsed, drawn into the esophagus and distended. If under distention the sound is freely movable up and down, the silk bag is replaced by a larger one. This is Plummer's method. Strauss uses a similar method, only he distends the bag with air and measures the latter to determine the size of the sac. The former method is the preferable one.

Fourth, An esophagoscopic examination is made.

Various methods of treatment have been employed. In this case the initial treatment was palliative. The sac was washed twice a day and one-eighth grain of cocaine given by mouth after each lavage. This seemed to give some improvement in the beginning but did not produce a lasting effect. The patient was given one one-hundredth grain of atropin hypodermatically, which produced no results. Then both cocaine and atropin were given with no results.

After these measures failed a Sippey dilator was used. The dilator was passed to a point about thirty-seven centimeters from the teeth at which point a definite obstruction could be felt, but one which was easily overcome with slight pressure. The dilating bag was passed to a point just beyond this resistance and inflated. On inflation the patient complained of sharp pain high in the epigastrium. While inflated the bag could be passed up and down with ease but apparently met with a slight obstruction at a point four or five centimeters lower down. This dilatation was kept up for five minutes. When the dilator was removed fresh blood was found indicating the possibility of a fissure or old ulcer at the cardia. The patient has had five similar treatments at intervals of three days. After each treatment the patient retained from two to three meals. Today the patient weighs one hundred pounds and has shown marked improvement.

The dilating bag almost universally used is the one devised by Plummer. It is made by cementing a rubber dam balloon, also called a Russell bag, to one end of a piece of nonelastic rubber tubing in such a manner that the tube just passes through the balloon. A number of holes are so punched in the rubber tubing that its lumen connects with the interior of the balloon. A sausage shaped bag is drawn over the balloon to preserve its shape on distension. A second rubber balloon is drawn over the in-

strument to facilitate its introduction. The size of the bag used varies from ten to thirty millimeters. The dilator is connected by rubber tubing to a monometer and water tap or pump. The pressure required varies from fifty to five hundred millimeters. It is determined up to a certain point by the tolerance of the patient as indicated by the pain. With this dilating bag from one to thirteen treatments are required to produce a cure.

From observation of this case it seems to me that the Sippey dilator is not an advisable one to use. First, it causes too great discomfort to the patient because the staff cannot be removed; second, the treatment cannot be extended over a long enough period; third, the dilating bag has no monometer; fourth, the bag cannot be distended enough; fifth, it cannot be used in the case of stricture; sixth, the bag cannot be held in place.

In order to obtain the very best results the patient must be treated early. I doubt if complete relief is possible after sacculation of the esophagus exists.

DISCUSSION.

DR. MARK MARSHALL: This case has been a very interesting one to follow in the clinic. Mr. Van Rhee has quoted from Plummer of the Mayo Clinic, who undoubtedly takes the lead in the diagnosis and the treatment of cardiospasm. I think probably Sippey of Chicago is more experienced and successful in the treatment of organic strictures, but in the matter of managing cases of spasm Plummer has the better apparatus.

In regard to the etiology of the condition, it never has seemed to me in the few cases that I have seen that such a condition can arise entirely as a neurosis, i. e. be due merely to a neurotic tendency upon the part of the patient. In noting spasms in other sphincters of the body, such as the pyloric and anal sphincters, we find that only mild conditions of spasms can exist purely as neuroses. Where the spasm is sufficiently marked to cause definite pathology at a point proximal to it, it is due usually to an ulcerated condition. Pyloric ulcers are frequently the cause of severe attacks of spasm. Spasm of the anal sphincter in severe cases is nearly always due to a fissure. If the fissure is treated the spasm disappears. Undoubtedly, we see many cases of spasm of these sphincters that are pure neuroses, but as a rule they recover with slight therapeutic measures. In this particular case, I would like Dr. Van Zwaluwenburg to discuss the X-Ray findings because they show certain features which seem to me to give the correct etiology in the case. The passage at the point of constriction is not straight but more or less tortuous, and in the plate I saw, it had the appearance of having something external to the esophagus distorting its course. Meyer of Washington has reported cases in which this is true; where the original pathology is not due to an ulcer within the esophagus or upper part of the stomach,

but due to some pathology outside of the esophagus resulting in adhesions which draw the esophagus to one side or the other. In this case there was a definite kink giving the appearance of a curve at the constricted portion, which led to difficulty in the passage of food.

Another point which seems to me in favor of such a condition in this patient is the fact that with the bag fully dilated one can pass it up and down with ease at the point of constriction. It does not seem very probable that a spasm would be so easily overcome, for if it were, why isn't it overcome by the food in the ordinary process of swallowing? It would seem on the other hand that there is a valve-like action as was suggested by Dr. Van Zwaluwenburg.

The fact that the case has not shown the usual good results would make it seem that there is something besides a simple condition of spasm here. Plummer's cases recovered in from one to thirteen treatments. This patient, I believe, has had five treatments and the improvement is very temporary after each treatment. One or two meals are retained following each dilatation.

DR. J. G. VAN ZWALUWENBURG: The X-Ray picture is a fairly typical one of an old spasmodic cardia with a secondary dilatation and with widening of the esophagus. These pictures were taken in stereo so that by the use of two plates you could see the dilatation was not only lateral but that there is a spiral terminating in a rather narrow end. This is the ordinary picture. In X-Ray circles it is beginning to be more and more firmly believed that all these things are reflex. We know that pyloric spasm is almost invariably reflex, either from pathology in the immediate vicinity or at a distance. Probably many pyloric spasms are due to pathology in the cecal region. It is much more probable that most of these cardiac spasms are due to a small gastric ulcer. The cure in anal fissure is obtained by dilating the sphincter sufficiently to paralyze it, and while it is recovering from its paralysis the fissure has a chance to heal. If we could dilate such a cardiac spasm to the point of paralysis, I think the chances of recovery would be much better.

A recent development of technic in the examination of esophageal conditions is due to Dr. Stewart of New York. Where there is a stricture of comparatively wide degree, or where a spasm occurs which is not entirely complete, he uses a portion of sausage skin, really hog casing, and the patient is asked to swallow it. The lower end of the sausage casing is tied off. After it is in place it is filled with the barium mixture and the picture taken. In that way we get not only the upper level of the stricture, but the lower level as well. It shows very nicely these low degrees of stenosis.

DR. HAROLD I. LILLIE: Regarding these spasms, last summer I had occasion to see a case of esophagismus in a man who was working on the road. Very suddenly he noticed that he was unable to swallow drinking water. He feigned a very severe illness and called his doctor. He could not swallow. I saw the man early in the evening and it was under very unfavorable circumstances for an esophageal examination. However, I made a fairly good examination under the circumstances, and could find

no pathology at all. I passed the largest size McKenzie bougie with ease. After it passed the pharyngeal orifice of the esophagus no obstruction was encountered, but one could feel the pressure of the upper end of the esophagus upon this bougie. There was no apparent pathology at all. As soon as the bougie was removed the spasm would recur, but passed away as soon as the bougie was left in place a minute or two. When the patient swallowed, the spasm would occur. It was in the country and we had no facilities for dilating the esophagus with the ordinary dilators we are in the habit of using, because we had no electric lights and such work requires electric lights. The case was interesting in so far as it was a pure and simple neurosis. The man recovered after a few days when the work was finished on the road.

It is very interesting in these cases of cardio-spasm to make an esophageal examination with the cardioscope. The picture is rather typical, unlike that which is found in organic constrictions. We have seen several cases and in one have dilated the cardia with a very powerful instrument and have held it in place for more than five minutes. This patient has never had a recurrence. We see him every six months. He has gained forty pounds in the last two years. He was unable to swallow anything but fluids. It would be interesting in this case to get the esophageal picture of the instrument as it goes down the esophagus. If there is an ulceration or fissure, you would have the basis for the spasm.

A CASE OF TUMOR OF THE KIDNEY MISTAKEN FOR AN OVARIAN CYST.

WARD F. SEELEY, M.D.

(From the Clinic of Obstetrics and Gynecology, University Hospital, Ann Arbor, Michigan.)

I wish to report the following case more on account of the mistake in diagnosis than for the rarity of the condition or for any peculiarity in the operative technic. Mistakes in diagnosis are always an added incentive to more painstaking clinical study, and this is especially true when applied to the surgeon who should conscientiously exhaust all methods at his disposal for accurate diagnosis and not be satisfied with simply stating his findings after the abdomen is opened. It is not always the case which on its face offers difficulty in diagnosis that affords the greatest interest at operation. At times the apparently simple case is a distinct surprise when the abdomen is opened, as the following will illustrate:

Mrs. G. L., age 47, entered the University Hospital, February 10, 1915 complaining of a gradually enlarging abdomen.

Family History.—Negative.

Personal History.—Negative.

Menstrual History.—Always regular until the

last few periods when the flow has occurred every three weeks. Otherwise negative.

Leucorrheal History.—Negative.

Marital History.—Married seventeen years. Health good since marriage.

Puerperal History.—Has had three children and one miscarriage without complications.

General History.—Appetite good, no cough nor night sweats. No cardiovascular nor gastric symptoms. Bowels regular. No tarry stools. No hematuria. No urinary symptoms.

Present Trouble.—The patient comes to the hospital for enlargement of the abdomen. This began about four years ago when she discovered

the left lower quadrant and pelvis, which reaches almost to the ensiform and extends well into both right upper and lower quadrants. The mass is freely movable, being easily displaced to the right side of its abdomen. There is no tenderness. The smaller upper pole of the mass feels rather firm while the larger lower portion is distinctly cystic. No evidence of ascites on percussion.

Vaginal Examination.—Outlet, multiparous. External and internal perineum lacerated. Rectocele.

Cervix.—Bilateral laceration, points upward.

Uterus.—Displaced backward and to the right but apparently not connected with the abdominal mass.

Appendages.—Cannot be made out on account of abdominal mass. Tumor above described is easily palpated through posterior cul-de-sac and has a distinctly cystic feel.

Physical Examination.—Negative.

Blood.—Reds 4,600,000, whites 11,400, hemoglobin 85, blood pressure 147.

Urine.—Few white cells and urates, otherwise negative.

Wassermann.—Negative.

Diagnosis.—In the light of the above findings a diagnosis of multilocular ovarian cyst was made and the patient prepared for operation.

Operation.—The abdomen was opened by a rather high median suprapubic incision and was found to contain a large cystic mass extending from the pelvis to the ensiform. On exploration of the pelvis the uterus was found displaced backward by the tumor mass but both ovaries were normal. On further exploration the descending colon was found to be stretched over the mass, which was retroperitoneal and arose from the left kidney. After palpating the right kidney and finding it normal it was decided to remove the tumor through the abdomen. The peritoneum was cut and the tumor dissected free at its lower pole. The mass was too large to remove through the incision which had been carried above the umbilicus but after aspirating 2,200 cubic centimeters of fluid the remainder of the mass could be lifted upward and partially delivered through the abdominal incision. The pedicle was clamped and cut and the tumor and kidney removed. The redundant peritoneum was cut away and the remainder anchored to the upper end of the incision and the cavity packed with gauze and a drainage tube left in place. The abdominal wound was



Figure 1. Cystadenoma of the Left Kidney.

a firm, rounded mass about the size of a grape fruit in the lower left quadrant. This was not tender and caused no symptoms. Since first discovering the mass it has gradually increased to its present size (Figure 1) and has caused her no symptoms aside from the inconvenience of an enlarging abdomen. The patient can move the mass freely from side to side. There is no history of chills, fever, nausea, vomiting, jaundice or loss of weight or strength. General health is excellent.

Examination.—The patient is of moderate frame, good nutrition, conjunctiva and mucous membranes of good color. Breasts; Montgomery's follicles enlarged. Secretion can be expressed from either breast.

Abdomen.—Enlarged, particularly in left lower quadrant. Highest point three inches below and to left of umbilicus. On palpation a large tumor is felt, apparently arising from

then closed in layers and the patient returned to bed.

Convalescence.—The convalescence has been entirely uneventful. The gauze packing was removed without hemorrhage and the abdominal wound has healed by primary union. The patient will be discharged within a few days.

Pathologic Diagnosis.—The pathologic diagnosis returned by Dr. A. S. Warthin is as follows: "Multilocular cystadenoma of the medullary pyramid. A regeneration cyst containing cholestrin. Numerous foreign body giant cells." It is probable that the tumor originated in remnants of the Wolffian body. The prognosis in this case should be favorable, especially so as the tumor was distinctly not of the congenital cystic kidney type.

AN EPIDEMIC OF WEIL'S DISEASE.

HOWARD H. CUMMINGS, M.D.

Head of the Health Service, University of Michigan.

Twenty-nine years ago, Weil described an acute disease, characterized by fever and jaundice and occurring in epidemics. Since then, this condition has been called infective icterus, acute febrile icterus and Weil's disease. Several epidemics have been described. In 1899 and 1900, a large epidemic occurred in North Carolina. Griesinger in Cairo and Katulis in Alexandria, described a similar condition and gave it the name "bilious typhoid." Other observers have reported epidemics in Egypt, India and South Africa.

Sporadic cases of acute catarrhal jaundice, febrile forms of gastrointestinal diseases with slight jaundice and abortive typhoid cases, have been incorrectly reported as Weil's disease.

During the last three months, I have seen twenty-five students showing jaundice and after investigation, I feel fairly certain that nineteen of these were cases of Weil's disease.

The first case observed, was diagnosed incorrectly. A young man was sent to the University Hospital; it was supposed he was suffering from acute appendicitis. When examined at his room, his temperature was 102.4 degrees. He had been vomiting and his abdomen was definitely rigid, but more marked over the right rectus. A blood count showed a leucocytosis. On the third day after entering the Hospital, a distinct jaundice appeared and he was transferred to the department of internal medicine. After the gastrointestinal symptoms had disappeared and his temperature was normal, he was discharged, but the jaundice persisted for

nearly two weeks. Not long after the first case appeared, a cousin of the first student affected, was found with an identical condition. These boys did not room together but they associated a great deal.

About one week later, five cases were found in two houses on the same street and within a few doors of each other. These students were companions and roommates. In twelve of the nineteen cases, it was found that the sick students had associated with an infected roommate, classmate or friend.

Varying in degree, the chief symptoms and signs were; chilly sensations; fever, ranging from 99.5 to 102.8 degrees; nausea and vomiting; loss of appetite; muscle soreness and stiffness; jaundice, appearing on the second to the fifth day of the disease and persisting on an average for two weeks. Pruritus was complained of only in the severe cases. The conjunctiva and tongue showed the bile staining early. An enlarged and tender liver was found in most of the cases. The stools were clay colored, while the urine showed a great increase in bile pigment.

Examination of the throat in severe cases revealed a swelling of the lymphoid tissue and marked congestion of the pharyngeal vessels. Three students showed enlarged cervical glands.

A diagnosis was based on the symptoms of an acute, severe infection associated with jaundice and occurring as an epidemic.

This series of cases was treated with salol and phenacetine, two and one-half grains of each, administered every three hours during the acute stages. Calomel in divided doses and followed by salts, stimulated elimination. An ounce of effervescing salts was given night and morning during the first week. The patients were encouraged to drink plenty of water, to bathe frequently and to take moderate exercise after the acute symptoms had subsided. Moderate exercise seemed to hasten the disappearance of the jaundice.

In 1892, Jaeger reported the cultivation of a bacillus, proteus fluorescens, from the urine of living cases and from the liver of a fatal case. Bacillus proteus is one of the common bacteria found in decaying organic matter. It is a long, slender bacillus and shows a marked tendency to form flagella. Booker and Ohlmacher reported outbreaks of food-poisoning due to infection with this organism. Metschnikoff regards it as the usual cause of infantile diarrhea.

It has been often noted that Weil's disease appears in persons who have been in contact

with decomposing animal matter. Because of this I traced the source of food in the nineteen cases reported. Only three of these students ate at the same boarding house. About twelve different houses furnished food for these patients. Of course, it is possible that decomposed meat was sold to each of the twelve boarding houses, but this seems improbable. Several of the boarding houses were large and many cases would have appeared had the food been contaminated.

Colon bacilli have been found in the urine from patients with Weil's disease, but this is probably a contamination and not the etiologic agent.

In conclusion, it seems possible that Weil's disease is not only infectious but mildly contagious. The infective agent produces in many cases, a true hepatitis as made manifest by the enlarged sensitive liver. The throat picture suggested to me the possibility of the lymphoid tissue as the avenue of infection.

DISCUSSION.

DR. Q. O. GILBERT: We have had only two of these patients in the Hospital. A blood culture was taken from the last one—the one shown tonight. It is still negative and will probably remain so as it was taken while the patient was here in the afebrile period.

The etiology of these cases is important and it seems unfortunate that in such a definite localized epidemic the bacteriologic study of these cases could not have been made. It is very interesting to have Dr. Cumming's idea of the focal origin and that it should be in the throat. This has a practical bearing on the taking of blood cultures for if we have a bacteremia because the organisms are given off to the blood stream from the source of focal infection, the blood culture should be taken during the febrile period, preferably during the early rising period. This is a view widely held now. We have had the opportunity recently of taking cultures from two hospital cases with terminal infections with jaundice not unlike that found in the epidemic. The one case with a localized peritonitis gave repeatedly colon bacilli in the blood cultures and the other a case with gangrene staphylococci in two cultures.

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May

Editorials

INTROSPECTION.

As members of the medical profession we are busily engaged with our practice, the earning of a living and the fulfilling of the many engagements and demands made upon us and our time. Unless we pause frequently to take stock of ourselves or review our present capabilities, we will all too soon find the yoke of habit firmly fixed upon our shoulders, our progress stationary and ambitions to rise stunted. Do we as individual doctors stop often enough to consider whether we are advancing, remaining abreast with medical progress and utilizing the latest approved methods in our daily work? Have we a standard whereby we measure our ability? Are we acquiring a broader intellectual viewpoint as the weeks pass by? Do we go back frequently to some point or time and measure ourselves by it and ascertain whether we have grown—or remained stationary?

A story is told of one of our greatest American artists that he found, when a student, in one of the famous art galleries abroad a certain picture that delighted him greatly. He would sit before it for hours drinking in its beauty. He studied every detail of it. He felt he knew every art value in it of line and color and composition.

Several years afterward, being again in this city, he hurried with eager steps to see “his

picture,” as he called it to himself. He was, too, a trifle anxious to see if it would mean as much to him as before. He wondered—just a little—if he would be disappointed in it.

To his joy, he discovered that he found much more pleasure in it than before, much more to satisfy his artistic sense. The picture showed him how much he had grown artistically. He thought he had already seen all there was to be seen in the picture. But coming to it fresh from further studies, he discovered much in the picture he had not seen before.

Several years afterward, he again repeated the experiment, to find the picture still held more for him. And he says that now, though comparatively an old man, he goes back to that picture as his measure of growth. He says he knows he is growing in his art when he still finds something new in the picture; and that when it becomes a closed book to him, he will know he has stopped growing.

We wonder how many doctors have something by which to measure their growth? We know that growth is essential. Do we go back like this artist, to some thing or place, to measure ourselves by it and see how we have grown? Haven't we any such mute friends? Are we utilizing them to investigate our personal growth?

You, as an individual doctor, have a responsibility that is broad in scope. It extends beyond the bounds prescribed by law—to exercise an average amount of skill and judgment governed by the practice of the particular community in which you reside. Were every physician to only exert himself to that extent the advancements that have been and are being recorded would not occur. It is incumbent on every physician to endeavor to rise to a degree of greater ability and cause himself to remain ever abreast with the universal progress of his profession. The demands of active practice oft impose a barrier and single handed he is defeated in the attempt to acquire practical knowledge and ability to apply the new and proven methods of modern investigations. There is, however, within the reach of every physician a medium whereby he may surmount this barrier. That medium is his county medical society. By actively participating in its deliberations and the attendance at every meeting the opportunity is provided by means of which one acquires the ability to veer from habit's rut and step up into a larger sphere of modern usefulness. Thus will you grow.

ACUTE CARBOLIC ACID POISONING.*

Acute carbolie acid poisoning is of such frequent occurrence that we feel that the gist of this author's experience will be of value to our readers.

Carbolie acid poisoning occupies the highest place in the fatality list of all poisons. It is one of the most quickly fatal poisons, therefore, to save a patient very prompt attention is required, and appropriate first aid is of vital importance.

Lavage of the stomach has for a long time been recommended and for this purpose plain water or watery solutions of various substances have been employed. Two drugs in particular have been used in this connection on seemingly rational grounds. These are alcohol and sodium sulphate.

The internal use of alcohol originated from a rather naïve and fallacious deduction that, because alcohol is an excellent antidote for carbolie burns of the skin, therefore it must be useful in the treatment of carbolie burns of the stomach.

After conducting numerous experiments on animals to whom the author administered lethal doses of carbolie acid and then employed all of the various antidotes and measures of resuscitation with the careful noting of the experiences in each experiment, the author makes the following statement regarding the fatal results attendant upon the use of alcohol:

From the above protocols it will be seen that introduction of phenol into the stomach of cats and dogs, in sufficient quantity will without a therapeutic procedure invariably produce death; but that the animal can often be saved by thorough lavage of the stomach. Of the three reagents used for this purpose and chiefly studied in this connection, sodium sulphate was found to be the most efficient, next in order being plain water. Alcohol was found to be distinctly deleterious, and often appeared to hasten a fatal issue. The chances of rescuing an animal depend firstly on the dose of poison swallowed or introduced into the stomach; secondly, on the promptness with which the lavage is begun, and, thirdly, on the solution used in washing the stomach. The earlier the lavage is begun the greater the chances of recovery, even though a large quantity of the poison has been taken. The presence of food in the stomach greatly increases the chances of recovery. In my experiments I have purposely refrained from any other measures in resuscitating the animal except artificial respiration, massaging the precordium, and keeping the animal warm; but the judicious use of stimulants would seem to be indicated, although in the few experiments in which

I tried them no striking effects were noted. For the use of emetics recommended by some authors, there seems to be no rational ground.

SUMMARY.

1. The efficiency of lavage in phenol poisoning depends on the quantity of poison taken, on the time after poisoning that the lavage is begun, and on the solution used for washing the stomach.

2. A strong solution of sodium sulphate appears to be the most useful for the purpose; next in efficiency comes plain water.

3. The influence of alcohol in phenol poisoning depends on the time of its administration. An animal that is previously intoxicated with alcohol can withstand better the effects of phenol taken afterwards. On the other hand, alcohol administered to an animal after poisoning with phenol will aggravate the symptoms and hasten death.

4. The use of alcohol in carbolie-acid poisoning should therefore be strongly discouraged.

One who reads, with studious thought, the author's experiments and review of the literature is forced to agree with him that: "Dependence should not be placed on alcohol as an antidote." It will aggravate the symptoms and hasten death. Strong solutions of sodium sulphate appear to be the most useful and next in efficiency comes plain water. Sodium sulphate—Glauber's Salt—is certainly readily obtained and may be found in many households.

Sodium sulphate is preferable to magnesium sulphate on account of the possibly depressant effect of the magnesium ions, in case of their absorption.

The subject is one that merits study and clinical observation. The author's contribution is valuable and points out an impressive method whereby the fatality from carbolie acid poisoning may be lessened.

GONORRHEA.

The subject of gonorrhea is so broad, so comprehensive and there are so many angles at which it may be viewed, that, perhaps, the best perspective is obtained by analyzing, one at a time, its numerous manifestations and combinations of symptoms. If we will do this, then form a composite picture of all that is embraced by the word—gonorrhea—we will better understand the conditions as they exist in individual cases. How much better it will be for us, for our patients, our community—even our world!—for there is no specie of the *genus homo* that is immune to the gonococcus. At our present rate of progress, it will be many generations, if not centuries before this disease that is now so prevalent, is eradicated. The sooner thorough,

*Extract from Johns Hopkins Hospital Bulletin, April, 1915. David I. Macht, M.D.

painstaking, conscientious examinations are made as a routine, the sooner will this desired end be attained.

The chronicity of many cases, the absolute failure to cure others, is very frequently due, not to a lack of knowledge, but to failure in giving attention to details—should we say indifference on the part of the physician?

We need but recall the large number of major operations necessitated by complications or sequellae of gonorrhea—variously estimated at from 25 to 50 per cent. of all gynecological operations—to realize the importance of making a thorough examination of each case and instituting appropriate treatment. It falls largely upon the general practitioner to study each patient as an individual case and to treat the existing conditions and not prescribe for all cases as if they were exactly alike. If cases of gonorrhea that present themselves were but considered and treated as individual cases, I am of the opinion that fewer subsequent operations will be required.

To be specific let us consider urethral gonorrhea in the female. Frequently the female urethra is alone primarily involved by the Neisser organism; comparatively few practitioners give this consideration. We know that if it is neglected this urethral infection will ascend to the cervix and later involve the tubes, ovaries and peritoneum. Frequently the only treatment prescribed is a vaginal douche with possibly internal alkaline medication. It is but natural that the douche be ordered discontinued as soon as the vaginal discharge ceases and by so doing there is encouraged a chronic urethritis with its possible disastrous complications.

It is common knowledge, at least it should be, that a woman may have an urethral infection without any accompanying leucorrhea; in fact, there may be no urethral discharge present nor can any be obtained by "stripping." However, by means of the platinum loop, the specific organism will often be found. Very few physicians, even in remote districts, are without or do not have access to a microscope. The technic of making a smear is simple and a microscopical examination made in but a few minutes.

If the infection is limited to the urethra, as is usually the condition found early in the infection, a one, or, a one-half per cent. solution of protargol injected into the urethra three times a day, in addition to a vaginal douche, almost, if not quite invariably effects a cure. The ure-

thral injection will correct the urethral infection and the vaginal douche will prevent ascending infection of the tubes and adnexa.

Weekly examinations should be made of the patient to ascertain whether or not complications are arising; a microscopical examination is indicated with the same frequency. The patient may be taught to inject the protargol with a glass syringe and to hold the solution in the urethra for from three to five minutes—the latter procedure is best secured by holding the tip of the syringe in the urethra after the solution has been injected.

For anatomie reasons, early urethral gonorrhea in the female is more easily dealt with than a similar condition in the male. In the first place the prostate and seminal vesicles can be forgotten and secondly, the urethral follicles in the female are less numerous and less patulous and therefore less apt to become infected.

If the above treatment, after complete cessation of subjective and objective symptoms, together with repeated microscopic findings, be followed by a "beer test" and there then does not occur a reappearance of the symptoms, the physician who has put himself to some inconvenience to be sure of his diagnosis and the location of the infection, may modestly pat himself upon the back and chuckle at the fact that the surgeon has been denied the opportunity of a later laparotomy.

In every case of urethritis it is important for the physician to determine whether he is dealing with an acute or a chronic infection; whether it is specific or non-specific and the exact location of the infection. Clinically it is at times impossible to determine between specific and nonspecific urethritis; this may, however, be done bacteriologically.

We have purposely avoided referring to the adoption of hygienic, dietetic and medicinal measures. There exists a large amount of literature that may be readily secured upon this subject.

We would like to impress the average physician with the simplicity of the present day treatment of gonorrhea in its early stages. It does not require special training or skill to locate the seat of the trouble, to corroborate the clinical diagnosis with the microscopical and to treat the case accordingly. It merely requires a little patience and a little time.

JOHN R. CORRYELL.

Editorial Comments

From month to month we have been drawing your attention to our advertisers and have endeavored to demonstrate how essential they are to this publication's future. We have stated time and again that the only possible way whereby *The Journal* may continue to maintain the financial receipts from our advertising pages is to patronize them and so cause them to receive a reasonable return and replies from their investment in your *Journal*.

Last month we published the largest number of advertisements and received the greatest advertising receipts in the fourteen years of the publication's existence. Some of these ads were inserted on two and three months' trial. You can readily perceive that they will not be continued if they do not produce results. Other possible contracts are in view providing we can prove our publication is a medium that reveals results from its advertising pages.

You, doctor, can personally determine whether we will witness an increase of advertising contracts or a retrogression. Don't put this off by saying that your neighbor will respond and so it will not be necessary for you. Your neighbor may be thinking the same thing: It is you, personally, whom we are seeking to impress with this necessity of personal co-operation. Will you not this month observe this request and write these advertisers?

In civic life we pride ourselves in living in what we individually believe is the best place; we speak with pride of belonging and holding membership in the largest and best church, lodge, club or whatever civic organization we may be affiliated with. We boast of these affiliations and are actively interested in them; we endeavor to increase their membership by inducing our friends to join; we boost on every occasion and never fail to participate in their activities.

If this is so of our civic life why can not a like enthusiasm, pride and "boosterism" manifest itself in our relations to our medical organization? Will you not induce your professional friends to join? Boost your local medical society; exhibit a personal pride in it and its activities. May we not witness a state-wide movement and exhibition of energy to make every county society the most active and the State Society the banner organization of the union?

There are some 800 eligible unaffiliated physicians in Michigan. Personal pride should cause you to procure their affiliations to make your society the larger, more effective.

The days of grace granted for the payment of membership dues expired on April 1. Those whose dues remained unpaid on that date have been placed upon the suspended list and thereby they forfeit the benefits of membership, are without the protection of the defense league for any proceeding brought against them for services rendered during the period of suspension, and their *Journal* has been discontinued. If you have a friend who has permitted his membership to lapse do not fail to urge him to bring about his re-instatement by the immediate payment of his 1915 dues to his county secretary.

Apropos of our editorial on Poisonous Fly-papers in the December issue bills have been introduced in the legislature of Michigan, Illinois, Iowa and Minnesota, regulating and limiting the sale of arsenical fly destroyers. It is certainly within the province and duty of every physician to warn the people of the dangers attendant upon the use of arsenical fly destroyers. During this summer remember that the child presenting acute manifestations of cholera infantum may be suffering from arsenical poisoning produced by the taking of a portion of the contents of these dangerous fly destroyers. During the past year some nine deaths occurred on this account. It is impossible to estimate how many children escaped a fatal ending and suffered from acute severe illness of gastro-intestinal origin induced by arsenic poisoning. Physicians may well add the dissemination of this information to the public to their movements of preventive medicine and sanitation.

The columns of practically all the better medical publications in the United States have been denied to manufacturers or agents who endeavor to sell unreliable, non-potent or fake therapeutic agents or who claim unproven results for their preparations. We regret that the two other medical publications in Michigan—*Detroit Medical Journal* and *The Therapeutic Gazette*—still deem it expedient and honest to accept and publish many of these questionable and unreliable advertisements. The dollars derived from such contracts cannot remunerate these publishers for the prestige they sacrifice in accepting such copy.

The Nurse published by the Nurse Publishing Co., Jamestown, N. Y., is now in its second year of existence. It is devoted to the work of nurses and contains in each issue several valuable original articles on practical and scientific nursing subjects, in addition to nursing news notes, medical and surgical progress, and an ably edited editorial department. Its illustrations are notable features of photographic art. In its brief period of existence it has secured a paid subscription list of over 8,000—a strong endorsement—for we are informed that no other nursing journal has ever attained such a large circulation. You will do well to write the publishers for a sample copy for inspection.

The last five legal cases this year against doctors that were defended by the attorneys of the Medico-Legal Committee, have been terminated by the presiding judge taking the case from the jury and directing a verdict of no cause for action. Thus is the value of our defense feature demonstrated. Thus also must we acknowledge the closer harmony of the entire profession for in all five cases cited the plaintiff failed to secure expert witnesses.

The Fiftieth Anniversary of our State Medical Society will be commemorated at our annual meeting in Grand Rapids on September 1-2. An unusually interesting and profitable program is being arranged. Our section secretaries request that you early inform them whether or not you desire to present a paper before any of the several sections. The scientific program is at present in progress of formation.

THE OLD LOG HOUSE.

Written by Dr. J. B. Griswold shortly before his death.

'Tis a little log house by the side of the road
That led from Clinton to town,
I'm recalling tonight, as I sit by the fire,
An old man, in slippers and gown.

"To the town," did I say? no there wasn't a town,
Just a school-house, (no shop and no store)
On a square piece of ground, dedicated a park
Where the people might meet—nothing more.

I looked for the house as I passed there last May,
And I stopped where the gate used to be,
But nothing I saw that invited me in,
Just the sod and an old apple tree.

For nothing remains of that little log house,
And the grass is as green where it stood,
As it is on the grave of the man who lived there,
And the grave of the woman he woo'd.

Then the apple tree spoke, and I hear its voice now,
As the embers burn low in my grate,
"I remember you, Jo, you're the same little boy
That planted me here by the gate."

"I remember the gate and the pathway that led
To the house that gave welcome to all,
And the latch-string that hung from the hole in the
door
And the 'Come in' that answered the call.

"The sweetest of women, the kindest of men,
Kept a light in the window for me,
For that log house at night was a rendezvous quite,
And a scene 'twas a pleasure to see.

"No light in the window for sixty long years,
No folks, and no house any more,
No greeting, no parting, no coming, no going,
No gate and no path to the door.

"Not a friend have I left, and I'm withered and old,
I've no hope for a future estate,
So good-bye little boy, keep my memory green,"
Said the lone apple tree by the gate.

Deaths

IN MEMORIAM.

Dr. William Fleming Breakey.

In the absence of the Chairman of the Committee appointed by this Society to prepare and read a memorial notice of the late Dr. W. F. Breakey—one who has so fully discharged his duties as a citizen of the state and nation, and a loyal Alumnus of the University—we now present the following account of his life:

William Fleming Breakey was born at Bethel, New York, September 10, 1835; son of Isaiah Breakey and Polly Ann (Lyon) Breakey. His father came to this country from the north of Ireland when 20 years old—while on this side of the water there was some mingling of Huguenot blood. His mother's family came from New England; the maternal branch, Holmes, claiming Mayflower descent. He commenced his medical studies in 1856 at the Albany Medical College, where after one year of work he entered the Department of Medicine and Surgery of the University of Michigan, there securing his medical degree in 1859. He began private practice at Whitmore Lake, Michigan, but when, owing to the lack of medical officers after

the battle of Shiloh in 1862, the Governor called for volunteer surgeons to care for the wounded, Dr. Breakey at once responded, rendering valuable service until June 18, 1862 when he was commissioned First Assistant Surgeon of the 16th Michigan Volunteer Infantry, reporting for duty at Harrison's Landing on the James River. During September and October, 1862 he was on duty at the Officers Hospital, Washington, D. C. Shortly after the second battle of Bull Run he fell ill, remaining at, and in charge of a camp of invalids and recruits at Arlington, Va. whence he was detailed in January, 1863 to hospital duty at Alexandria, Va. Rejoining his regiment in April at Rappahannock's Station, he was first detailed as chief medical officer of the 20th Maine Volunteer Infantry, and later took charge of a division smallpox hospital. Next he saw service with the artillery of the 5th Corps, in medical charge of Battery I., 5th, U. S. Artillery, and of Bigelow's 9th Mass. Battery; after which he took charge of the Artillery Brigade Hospital of the 5th Corps. His duties remained unchanged until after the battle of Gettysburg July, 1863. Later, assigned to the charge of a division of the Lettermen Field Hospital at Gettysburg, he treated those too seriously wounded for transportation. During the battle of Gettysburg, being hastily summoned to a case of secondary hemorrhage he sustained a severe injury to his left thigh from which he never fully recovered. This resulted in his honorable discharge, and muster out of the service, after resignation of his commission in 1864. During the previous January he had, however, rejoined his regiment, re-enlisting on his return to Michigan, as he hoped that his injury would not prevent him from further active service.

Settling in Ann Arbor he continued to practice his profession until his death on February 13, 1915. He first joined the teaching force of the University in 1868, acting as Prosector of Surgery, and Associate Demonstrator of Anatomy for the session of 1868-69. Entirely by his initiative, and his urgent representations of its necessity in 1891, he established the department of Dermatology and served as a Lecturer on Dermatology and Syphilology until 1905, since when he served as Clinical Professor of these branches until his resignation in 1912. For ten years he served as Health Officer of Ann Arbor, and for over thirty years as Examining Surgeon of the local Pension Board.

He is the author of numerous articles on medical, scientific and other subjects, among which the most noteworthy are: "The Conservative Value of the Artificial Induction of Premature Labor" (Mich. State Medical Society 1877). "Ulcerative Perforation of Stomach" (Mich. State Medical Society

1887). "Some Medical-Legal Questions of Smallpox" (Mich. State Medical Society 1889). "Mutual Obligations and Responsibilities of the Physician and the People in Promoting Medical Science" (1890). "Needs for Better Study of Diseases of the Skin" (1901). "The Light Cure in Lupus" (*Physician and Surgeon*, 1901). "A Case of Mycosis Fungoides" (*Journal, Cutaneous and G. U. Diseases* 1902). "Conditions that Influenced the Rise of the X-Ray in the Treatment of Epitheliomata and Other Skin Diseases" (Clin. Society Univ. of Mich. 1903). "Parasitic Sycosis Communicated from Cattle" (*Jour. Cut. Diseases*), etc., etc.

He was married June 28, 1862 to Miss Jennie E. Stevens of Whitmore Lake who died March 13, 1879, by whom he has two children, Mrs. E. D. Adams of Leyland-Stanford University and Dr. James F. Breakey of Ann Arbor. On April 28, 1884 he married Miss M. Louise Renville of Brooklyn, N. Y. who survives him.

A member of the G. A. R. the M. O. L. L. the American Medical Association, the American Dermatological Association, the Michigan State Medical Society, of which he was President in 1904, the Northern Tri-States and Washtenaw County Medical Societies, and an active member of the Board of Directors of one of the local banks, his professional and other interests were multifarious.

Your committee desires to call attention to certain admirable characteristics of Dr. Breakey, commending them as an example to be followed by the younger members of the profession.

To those who knew him the following statements are superfluous, but we wish to place on record some adequate estimate of the esteem in which he was held by all those who knew him. His was a most lovable disposition. He never harshly criticised others. He never spoke ill of others because he never thought evil of them. If he could not honestly say pleasant things, he said nothing. His kindly sympathetic manner won the confidence of his patients. His slow, deliberate way of listening to all a patient had to say inspired the confidence that his ease would be carefully weighed; that he was never to hurried to consider all sides of the problem. The kindly, but somewhat humorous way he received the complaints of his clients, even when himself more ill than they were, should teach us all a lesson. Towards the last he was rendered intensely uncomfortable, when not actually suffering acutely, by complication but it was rare for him to be other than cheery and uncomplaining. He was an admirable example of an honest, upright, Christian gentleman.

WM. BLAIR,
CHAS. DE NANCREDE,
V. C. VAUGHAN,

Dr. L. S. Griswold, of Big Rapids, Michigan, died Sunday morning, April 4, 1915. He was born in Ohio on January 3, 1853 and lived on a farm until he was 17 years old. He received his early education in the schools of Greenville, Michigan and graduated from the Detroit Medical College in 1879. He commenced practice in the village of Sand Lake, Kent County, moving from there to Big Rapids in 1881.

Dr. Griswold was a fine general practitioner and surgeon. He belonged to the well known type of old fashioned family physician, always ready to attend to a call either day or night and at the same time possessed much ability as a surgeon, having received his training in the emergency surgery that was so common in the lumber woods at the time he commenced practice and for many years thereafter.

It is quite probable that no one in Big Rapids came closer to the family circles of more homes than did Dr. Griswold during his residence there. In many homes he has been the only physician to afford assistance in case of illness for more than thirty years.

He was buried under the auspices of the Knights Templar on Wednesday afternoon, April 7.

The doctor was in the harness up to the last, having worked all day Saturday and until 10:00 o'clock in the evening, attending to the duties of his profession. He retired in his usual good health, but aroused his wife at 2:00 o'clock complaining of cramps in his arms and back and difficulty in breathing. At 2:30 he was seized with a violent convulsion which produced immediate paralysis of the respiration, so that his death was almost instantaneous. It was generally supposed that he was in perfect health and the exact cause of the fatal convulsions was not determined.

Dr. Griswold was a charter member of the Mecosta County Medical Society, and for many years a member of the Michigan State Medical Society and the American Medical Association.

Austin W. Alvord

It is with the deepest regret that the *Journal* records the death, at his winter residence, St. Petersburg, Florida, on the 23rd of March last, of Austin W. Alvord, A.M., M.D., of Battle Creek, Michigan.

In his death, the medical profession of the State of Michigan has lost one of its most valuable and influential members.

Dr. Alvord was first appointed a member of the Michigan State Board of Registration in Medicine upon its inception in 1899, by Governor Pingree, at which time he was President of the State Medical Society. He was reappointed by Governor Bliss in 1901, by Governor Warner in 1907, and by Governor Osborn in 1911. Governor Ferris recommended him for reappointment just prior to his death. In 1901, the University of Michigan conferred upon him the degree of "A.M." in recognition of his services in the cause of higher education.

Dr. Alvord was endowed, by temperament, education and experience, with unusual qualifications as a member of the profession and as a citizen. As a member of the medical board he specialized along the lines of a systematized method of definite hours in medical courses, divided into lectures, laboratory and clinics, which has been adopted by the national medical associations, and as a natural sequence, by state medical boards. He was recognized by the profession, not only as possessing superior qualifications as a practitioner and as an administrator of state medical requirements, but also as a man of the highest integrity and broadest sympathies. He represented the type of man whose virtues and accomplishments will be more readily recognized after his departure.

Dr. Alvord will be greatly missed by all who had the privilege of knowing him, not only for his optimistic, congenial and sympathetic nature and his liberality to those in disagreement with him, but also his helpful and forceful support in all matters connected with his duties as a member of the medical board and the profession. He died "in harness," a soldier to the last in the cause of human service. A few days prior to his death, after performing a critical and tedious operation, he collapsed, which, owing to complications, resulted fatally.

Dr. Alvord was a member of an old and historic family, established in New England a few years after landing of the Pilgrim Fathers at Plymouth Rock. Gad Alvord, his grandfather, married Phoebe White, a direct descendent of Peregrine White, the first white child born in the Plymouth colony. Alanson Alvord, the father of Dr. Alvord, obtained a liberal education at Yale University, subsequent to which he entered the Union Theological Seminary of New York, and upon the completion of his course was ordained as a minister of the Congregational church. He was one of the founders of the First Congregational church of Chicago, in 1851. At the time of his demise, in 1862, he held the pastorate of the Congregational church of York, Pa., and was recognized as a leader in his religious denomination.

Rev. Alanson Alvord was married to Miss Barrows, of Brimfield, Mass., a lady of broad education, culture and refinement, who traced her ancestry back to the year 1640, her grandfather being a soldier in the Revolutionary War.

Dr. Alvord was the eldest of four children born to this union. His education was obtained at Oberlin College, Ohio, and in the literary department of the University of Michigan. Upon the completion of his literary course, he engaged in teaching for a number of years, being superintendent of the schools of Owega, N. Y., at the time of the outbreak of the Civil War.

Dr. Alvord enlisted in Company H., 109th Regiment, New York Volunteer Infantry, and went to the front as captain of his company, many of his former students accompanying him. Later the regiment became a part of the Ninth Army Corps of the Army of the Potomac, and participated in all the campaigns up to the time of the surrender of General Lee at Appomattox. Early in 1864 Dr. Alvord was promoted to the rank of post-quartermaster of the Department of the South, on the staff of General Foster, with headquarters at Hilton Head and Beaufort, S. C. During the greater part of the closing of the war he acted as surgeon, for although he was not graduated he had spent two years as a student in the medical department of the University of Michigan.

During his service as a commissioned officer, Dr. Alvord won great distinction, notably so in the Battle of the Wilderness, where he was in command of a company of some eighty men, in which engagement his entire company was lost, with the exception of fourteen, all of whom, including himself, were wounded. In October, 1864, by order of the Secretary of War, on recommendation of the Board of Army Surgeons, he was honorably discharged, his health being greatly impaired.

On regaining his health to some extent, Dr. Alvord completed his course in medicine, graduating in 1868 from the medical department of the University of Michigan. He subsequently practiced at Clinton, Lenawee County, and in 1882 removed to Battle Creek and established a state reputation as an advanced and successful surgeon.

In 1861, Dr. Alvord was married to Miss Eliza Barnes of Ann Arbor, by whom he had two children. Subsequent to Mrs. Alvord's death, in 1877, Dr. Alvord was united in marriage to Miss Fannie R. Little of Grinnell, Iowa, who died in October, 1901. Two children were born to this union. Dr. Alvord was married again in 1902, to Mrs. Addie S. Anderson, widow of Dr. Anderson, and a niece of Dr. Alvord's first wife. Mrs. Alvord, who survives him, is a Daughter of the American Revolution.

The sentiment of the profession is beautifully expressed in a letter under date of March 24th, from Dr. Arthur M. Hume, a fellow-member of the medical board:

"I am shocked and grieved to learn, by to-day's papers, that our good old friend Dr. Alvord has passed away. Though we knew he was weakening physically, his strong mentality and cheery optimism made us forget perhaps that he approached the sunset of life. He was your friend and mine; always loyal, no matter what such loyalty cost. I was young in the profession when we first met and he called me 'Boy,' in that fatherly, cheering, encouraging way he always had for the youngsters. He had a large mind and a bigger heart; and while his superior mentality sifted to the last grain every new idea of consequence, his heart held his old friends just as they were, with no disposition to scrutinize as to their weaknesses, their faults or their failings.

"His was a life of service to humanity and he lived it to the limit. He was one of the few physicians that I have known who seemed to be my ideal of what the 'Family Doctor' should be. Active as he was during these later years in creating a sentiment for advanced standards, his every day life furnished just that standard—nothing less."

Dr. Alvord's life was one of service, and is emphasized by the ideals expressed in the following, his favorite poem, which was read at his funeral service at Battle Creek, March 27th:

THE HOUSE BY THE SIDE OF THE ROAD.

There are hermit souls that live withdrawn
In the peace of their self-content;
There are souls, like stars, that dwell apart,
In a fellowless firmament;
There are pioneer souls that blaze their paths
Where highways never ran;
But let me live by the side of the road
And be a friend to man.

Let me live in a house by the side of the road,
Where the race of men go by,
The men who are good and the men who are bad,
As good and as bad as I.
I would not sit in the scorner's seat,
Or hurl the cynic's ban;
Let me live in a house by the side of the road
And be a friend to man.

I see from my house by the side of the road,
By the side of the highway of life,
The men who press with the ardor of hope,
The men who are faint with the strife,
But I turn not away from their smiles nor their fears,
Both parts of an infinite plan;
Let me live in my house by the side of the road
And be a friend to man.

I know there are brook-gladdened meadows ahead
And mountains of wearisome height;
That the road passes on through the long afternoon
And stretches away to the night,
But still I rejoice when the travelers rejoice,
And weep with the strangers that moan,
Nor live in my house by the side of the road
Like a man who dwells alone.

Let me live in my house by the side of the road
Where the race of men go by;
They are good, they are bad, they are weak, they are strong,
Wise, foolish—so am I.
Then why should I sit in the scorner's seat,
Or hurl the cynic's ban?
Let me live in my house by the side of the road
And be a friend to man.

—Sam Walter Foss.

Probably no greater tribute could be paid to our late associate than the eulogy which appeared in the Battle Creek Daily Journal on the day of his funeral:

"With expressions of sorrow and affection, tears and tokens of appreciation, our beloved friend Dr. Austin W. Alvord was quietly carried to the last resting place for mortal man today.

"In the memory of him we may say in unison, that he was a devoted and unselfish friend, a sympathetic and wise counselor and an honest worker.

"All through the years of toil and adversity he did no living soul a single act of unkindness, but carried his own cross and preached the everlasting reward of truth.

"Is not such a man mighty?

"Prayers and eulogy are small offerings; better let those who knew him, seek silent advice in the memory of a man who lived his life in the light of a true master, that his teachings might be spread to all men."

A thoughtful review of Dr. Alvord's ideals, life and accomplishments, cannot but inspire and stimulate those of us left behind to a higher and more effective effort to follow the admonition, "Go thou and do likewise."

Dr. Thos. M. Koon of Grand Rapids died in a private sanitarium in Minneapolis, April 10, 1915. Dr. Koon had been in ill health for about a year from a nephritic condition. Bronchial pneumonia developed and terminated fatally in three days.

By the death of Dr. Thomas M. Koon Grand Rapids loses an esteemed and public spirited citizen and the medical fraternity an able practitioner, whose skill in the treatment of diseases of children and contagious diseases was recognized throughout the state. The doctor was conspicuous in Grand Rapids by his keen interest and personal activity in public affairs, and his usefulness was recognized by appointments to positions of public trust and responsibility. Among these was his appointment as health officer by Mayor W. Millard Palmer in 1902, and at the close of his term was reappointed another term by Mayor Edwin F. Sweet, who recognized his value in dealing with the responsibilities of that office. It was during his last term that the health of Grand Rapids was threatened by an outbreak of smallpox that became a serious menace. Dr. Koon grappled with the situation, and it was due to his ability and foresight that the disease was checked. It was his knowledge of contagious diseases and their treatment that brought him into state-wide prominence.

When Chase S. Osborn was elected governor of Michigan he selected Dr. Koon as a member of the state board of health, and he held that important post until his death. At the time of his death he was vice president of the state board, a position which he had held a considerable time. It was due to his ability in organization and his extended medical knowledge and skill in handling contagious diseases that he became recognized as an authority on health and sanitation throughout the state.

In political faith Dr. Koon was an ardent and active Republican, and in the councils of that party he was prominent not only in Grand Rapids but among the party leaders of the state. He had served on both county and city Republican committees and at the last Republican national convention, when William H. Taft was nominated for president, he was appointed chief of the staff of physicians for the convention

WAS REGARDED HIGHLY.

Dr. Koon had practiced medicine in Grand Rapids, associated with his father, Dr. C. E. Koon, for sixteen years. The family moved here from Casnovia sixteen years ago. Before coming here the father and son practiced together, in all for a period of twenty years, both highly regarded among the medical fraternity. He was for some time a member of the medical staffs of the U. B. A. and Butterworth hospitals and on account of his ability in the treatment of diseases of children was made one of the staff of physicians of the Blodgett Children's Home.

Dr. Koon secured his early education in the public school of Casnovia, later attending the State Normal School at Ypsilanti. Leaving there he went to Chicago, where he acquired the full course in the Rush Medical College. Graduating from there he entered practice with his father, but returned later to Chicago and took a post graduate course. During 1907-1908 he spent nine months in Europe attending lectures on children's diseases in the great hospitals of London and other cities.

Dr. Koon was born in Bloomington, Ind., forty-five years ago, his family moving to Casnovia during his childhood. Four years ago he was married to Miss Harriet Campbell of Sault Ste. Marie.

Surviving are the widow, one son, three years old; father, C. E. Koon of this city, and William A. Koon, an attorney in Minneapolis.

He was a member of the Kent County and Michigan State Medical Societies and of the American Medical Association.

The funeral was held April 13 and was attended by a large number of the local profession as well as some from other parts of the state.

"The loved and loving brother, husband, father and friend died when manhood's morning almost touched noon and while the shadows still were falling toward the west."

"He had not passed on life's highway the stone that marks the highest point but being weary he lay down by the wayside, and, using his burden for a pillow, fell into that dreamless sleep that kisses down the eyelids still. While yet in love with life and raptured with the world, he passed to silence and pathetic dust."

Dr. Mason W. Gray, a prominent physician of Pontiac, died April 13th, 1915 at his residence, after a brief illness.

Dr. Gray was born July 23, 1855, on a farm in Troy township. He was graduated from the Michigan Agricultural College in 1877, and from the department of medicine of the University of Michigan in 1880, and the following year took a post-graduate course in medicine at the University of Pennsylvania.

Dr. Gray was a charter member and the first president of the Pontiac Medical Society, and one of the organizers of the Oakland County Medical Society. He was also a member of the Michigan State Medical Society, the American Medical Association, and the American Public Health Association.

Dr. Alexander H. Scott of St. Joseph, died at Brunswick, Ga. where for the past few years he spent the winter months. Death occurred March 22.

Dr. Scott was graduated from the University of Michigan in 1867. He was an active member of the Michigan State Medical Society and the A.M.A.

Dr. Enoch Emerson of Spring Arbor, died March 25, 1915 from a self inflicted pistol shot. No reason is known for the suicide.

Dr. Emerson was a successful physician at Spring Arbor, having practiced there for thirty-one years. He was graduated from the Detroit College of Medicine in 1886. He has been a member of the Jackson County Medical Society and the Michigan State Medical Society since the year 1905.

State News Notes

For scenic beauty the Sante Fe railroad is the desirable route to San Francisco. Special train service will be supplied for those desiring to attend the annual meeting of the A.M.A. in San Francisco in June. A schedule of this service will be found in our advertising page.

The chiropractors' bill seeking to secure a status for practitioners of this cult and to grant them a license, is announced to be officially killed and will

not be reported out of the committee to which it was referred. In a subsequent issue we will review the work of our Legislative Committee.

For the purpose of starting a permanent fund to wage a systematic campaign against the spread of tuberculosis in Michigan, Dr. J. H. Kellogg of Battle Creek has given the State Board of Health, \$1,000.00.

The American Section of the International Association of Medical Museums held its eighth stated meeting in St. Louis, Mo., on April 1. Dr. A. S. Warthin of Ann Arbor presided as Chairman.

Drs. A. P. Biddle, J. V. White, Jas. A. MacMillen, R. A. C. Wollenberg, Geo. C. Chene and Geo. J. Reberdy have removed their offices to Suite 938-945 David Whitney Building.

Dr. R. M. Gubbins has moved to Battle Creek, and has opened offices in the Post Building, while his residence is on Beach St. Dr. Gubbins is succeeded at Ceresco by Dr. L. E. Wescott.

Dr. A. T. Hafford of Albion, was married Tuesday, March 30th, at Battle Creek, to Miss Shurley Bruss. They will immediately commence house-keeping at Albion.

Thirty-five students of the Detroit College of Medicine and Surgery attended a clinic at the Michigan Home and Training School in Lapeer on April 16.

The examinations for license to practice medicine in Michigan will be held in Detroit, May 27-28-29 and in Ann Arbor June 8-9-10.

STOLEN: Ford Touring Car—1914 model; Dash number 363247; motor number 400633. Firestone tires; electric lights. H. S. Bartholomew, Lansing.

Dr. Harry A. Haze of Lansing has handed in his resignation as surgeon-general of the state artillery. Dr. Haze held this office for eight years.

The budget allowed the Board of Health of Detroit amounts to \$756,885. Of this some \$75,000 is allotted for the care of tuberculosis patients.

Dr. George L. LeFevre of Muskegon has received the appointment of first lieutenant in the U. S. Reserve Medical Corp.

The Michigan State Nurses' Association and the Michigan State League of Nursing Education will hold a joint meeting in Ann Arbor, May 4-5-6.

Negaunee citizens have petitioned their council to appoint a full time health officer.

Dr. G. O. Switzer of Ludington has tendered his resignation as health officer of that city.

Dr. C. S. Gorsline of Battle Creek, is enjoying a vacation in Florida.

County Society News

CALHOUN COUNTY

Fourth regular meeting of the Calhoun County Medical Society was a joint meeting with the South-western Triological Association, and was held in the Commission Room of the City Hall, Battle Creek, Tuesday evening April 6th, at eight o'clock.

PROGRAM.

Clinic—By the Membership.

Address. Neuro-Retinitis,

Dr. A. E. Bulson, Jackson, Michigan

Address. Focal Infections,

Dr. Burton C. Corbus, Grand Rapids, Michigan.

GRAND TRAVERSE-LEELANAU COUNTY

The regular meeting of the Society was held on Tuesday evening, April 6, at Dr. Holdsworth's office.

Dr. J. M. Wilhelm acted as chairman.

A very interesting program was given. Dr. J. A. Hall read a paper on the "Abderhalden Reaction." Dr. A. S. Rowley read a paper on the "Harrison Law." Both papers were discussed.

W. D. MUELLER, Secretary.

MARQUETTE-ALGER COUNTY

Meeting of the Society was held March 17 at the City Hall, Marquette, Michigan. Paper was read on "Habitus Scrofulosus" by Dr. Henry Cunningham, Marquette. The paper exhibited much thought and care in preparation and great practical value. Discussion of the paper was general by the Society.

Instead of a paper, Dr. T. M. Cunningham spoke on the subject of "Acute Gastro Intestinal Infection Occurring in Marquette in the Winter Time." The subject was treated with special reference to its etiology. The subject was a live one because the

same infection had occurred three years ago and again this year, not only here but in different communities in this region. An animated and general discussion followed. As a conclusion to this subject, motion was made that Dr. Main, full time health officer of Marquette, Michigan, be a committee of one to investigate the prevalence of this gastrointestinal infection in communities above and below Marquette, and report at our next meeting.

The fee-schedule committee made a report. No action was taken on this matter by the Society.

H. T. CARRIEL, Secretary.

MUSKEGON COUNTY

At the annual meeting of the Muskegon County Medical Society the following officers were elected:

President—F. W. Garber.

Vice-Pres.—B. F. Black.

Secretary—J. T. Cramer.

Treasurer—L. N. Eames.

Delegate—V. A. Chapman.

Alternate—F. B. Marshall.

Director for 3 years—J. Oosting.

Director for 2 years—J. Vander Laan.

Director for 1 year —G. S. Williams.

Medico Legal Com.—F. B. Marshall.

Dr. Dodge of Big Rapids read a paper before the society Friday evening, Jan. 22, 1915 His topic was, "Personal Experience with Appendicitis."

J. T. CRAMER, Secretary.

OAKLAND COUNTY

The regular meeting of the Oakland County Medical Society was held on Thursday, April 1st, in the supervisor's room of the Oakland County Court House, Pontiac, at 2:30 p. m., President Miller presiding.

The minutes of the last meeting were read, and Dr. Fred T. Burt of Holly was elected a member of the Society.

Reports on Practice.

Presentation of Pathological and Anatomical Specimens.

Presentation of Patients.

"Ileus, Post Operative,"

R. C. Andries, Detroit.

"Surgical X-Ray,"

W. J. Cassity, Detroit.

Dr. R. C. Andries of Detroit read a very interesting and instructive paper on "Post-operative Ileus." This paper was one which promoted considerable discussion because of its originality. Dr. Andries has spent a great deal of labor and time in bringing

about mechanical ileus in animals. He gave a very detailed and complete history of its production and outcome on various animals which was most interesting.

JAMES J. MURPHY, Secretary.

ST. CLAIR COUNTY

The St. Clair County Medical Society held their regular semi-monthly meeting at the Elks Club Thursday evening, April 1, 1915.

Dr. Daniel LaFerte of Detroit gave a very interesting talk on fractures.

Supper was served to about every member of the Society and an enjoyable time was reported by all.

R. K. WHEELER, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

Wednesday, April 14, 1915, 1:30 p. m. Academy of Medicine rooms, Public Library building.

Luncheon at The Park-American at 12 noon.

1. Report of a Case of Intra-Urethral Chancre.

Dr. Arthur E. West, Kalamazoo.

Discussion opened by Drs. J. W. Bosman and P. T. Butler.

2. The Danger of Relaxation of Vigilance in the Unconditional Discharge of any "Cured" Typhoid Case—A Specific Illustration.

W. A. Perkins, Kalamazoo.

Discussion opened by Drs. D. J. Scholton and J. B. Jackson.

3. Salient Points in the Differential Diagnosis of Carcinoma, Tuberculosis, and Syphilis of the Larynx.

Dr. Joseph C. Beck, Chicago, Ill.

Discussion opened by Drs. E. P. Wilbur, F. E. Grant, E. J. Bernstein and E. D. Brooks.

WAYNE COUNTY

Monday, March 29—General meeting.

Dr. Pantzner was unable to read his paper before the Society. Dr. A. B. Graham and Dr. F. R. Carlton, also of Indianapolis, were in the city in a receptive mood and they consented to address the members. Dr. Graham talked upon the newer methods of general anesthesia and Dr. Carlton gave his experience in prostatic surgery. Their remarks were greatly appreciated.

Monday, April 5—General meeting.

Diagnosis and Treatment of the Surgical Diseases of the Biliary Tract,

Dr. C. D. Brooks

Discussion opened by Drs. George Potter, Ray Andries, A. W. Blain.

Jaundice from the Internists' Standpoint,

Dr. Geo. E. McKean.

Discussion opened by Drs. W. N. Donald, E. W. Haas.

Monday, April 12—Medical Section.

Psychoneurosis,

Dr. Augustus W. Ives.

Discussions opened by Drs. Wesley Taylor, David R. Clark, I. L. Polozker.

Monday, April 19—General meeting.

Joint meeting of the Wayne County Medical Society, guests of The Detroit Branch of the A. Ph. Ass'n. and The Detroit Retail Druggists Ass'n.

Five minutes talks from,

R. H. Bodimer, Pres. D. R. D. Ass'n.

W. A. Hall, Pres. Detroit Branch, A. Ph. A.

Dr. Don M. Campbell, Pres. Detroit W. C. M. S.

Address by Victor C. Vaughan, University of Michigan.

The Poisonous Group in the Protein Molecule.

Discussion opened by E. M. Houghton, A. P. Ohlmacher and C. Hollister Judd.

Dr. Vaughan gave an account of some of his wonderful discoveries in connection with the poisonous compounds, which he has separated from some of the most common vegetables and animal proteins, such as the proteins of wheat, hemp seed, white of egg and casein of milk. Dr. Vaughan has been engaged in this study for fifteen years and is an authority on the subject.

Monday, April 26—Surgical Section.

Symposium.

Some Interesting Phases of the Problem of Surgical Service in Hospitals.

1. Organization of a Surgical Service.

Dr. Wayne Smith.

2. Standardization of Surgical Technic,

Dr. W. L. Babcock.

3. A Study of the End Results of Surgical Treatment in Hospitals.

Dr. John N. E. Brown.

Discussion opened by Drs. W. F. Metcalf, Angus McLean, Frederick C. Kidner.

Citarin.—Citarin was admitted to New and Non-official Remedies in 1906. The Council on Pharmacy and Chemistry held that experiences had failed to demonstrate the value of Citarin as a uric acid solvent and hence directed the omission of it from New and Nonofficial Remedies (*Jour. A. M. A.*, Feb. 20, 1915, p. 685).

Book Reviews

A PRACTICAL TREATISE ON DISEASES OF THE SKIN.

By Oliver S. Ormsby, M.D., Professor of Skin and Venereal Diseases in the Rush Medical College, Chicago. Octavo, 1168 pages, with 303 engravings and 39 plates in colors and monochrome. Cloth, \$6.00, net. Lea & Febiger, Publishers, Philadelphia and New York.

Dr. Ormsby's recognition as one of the world's foremost dermatologists gives to this work the stamp of high authority. He has brought to the task of preparing a complete consideration of present-day dermatology, with its broadly divergent aspects, peculiar qualifications resulting from thorough study and broad observation, and has not failed to profit by his long association with the late Drs. J. Nevins Hyde and Frank Hugh Montgomery. The appearance of his work at this time is particularly opportune, resulting in a careful, up-to-date, and final review and co-ordination of the numerous and important additions to the knowledge of this subject recently reported from various parts of the world.

The volume is concise but its descriptions of cutaneous conditions are sufficiently detailed to be of real value to practitioner, specialist or student. Many new diseases have recently been differentiated, and new facts discovered concerning the nature and course of previously known diseases. All these findings are taken up and harmoniously developed in the author's finished consideration of the subject.

The striking results of recent research in the etiology and pathology of cutaneous diseases are assigned their proper places, and the newer methods of diagnosis are presented at length. The literature of the subject has been thoroughly reviewed and the author has not overlooked the rich fund of valuable material in the treatise of his distinguished colleague, Dr. Hyde. His quotations from the opinions of leading dermatologists, with references, afford the conscientious student a useful starting point for his further investigations.

The consideration of treatment is well developed, and the directions are most explicit. His therapeutic recommendations are clear and positive, and include not only the standard treatments, but the special methods which have been so extensively developed during the past few years.

The superb series of illustrations and plates includes some from the standard treatise of Dr. Hyde, and a very large number from new and original photographs in the author's own collection and in those of his colleagues in recent dermatological research.

Its authoritative statement, clear explanations and concise diction make this volume peculiarly adapted

to students' use. For the specialist it offers a complete summing up of present-day knowledge and practice in this rapidly developing field. For the practitioner its usefulness is established by its availability both as a reference book and working manual and by the emphasis placed on diagnostic factors and on treatment.

THE TUBERCULOSIS NURSE. HER FUNCTIONS AND HER QUALIFICATIONS. A handbook for Practical workers in the tuberculosis campaign. Ellen N. LaMotte, R.N. With introduction by Louise Hamman, M.D. Cloth, 292 pages. Price \$1.50. G. P. Putnam's Sons, New York.

This book will be of great usefulness to the nurse and others engaged in the matters considered in the text. It is interesting, valuable and worthy a position in any library.

SURGERY OF THE BLOOD VESSELS. By J. Shelton Horsley, M.D., F.A.C.S. Surgeon in charge St. Elizabeth's Hospital, Richmond, Va. 300 pp., cloth. Price \$4.00. C. V. Mosby Company, St. Louis, Mo.

This is a satisfactory monograph that deals with the various phases of blood vessel surgery, and its recent developments. It clearly sets forth the author's personal experiences and the methods he employs.

It may safely be said that he who reads this book will be immensely benefited by the author's experiences and thereby enabled to approach the actual work of blood vessel surgery, which is so important today, with definite guiding principles. This is a most timely volume and merits a cordial reception.

INFECTION OF IMMUNITY. A Text-book of Immunology and Serology. For Students and Practitioners. By Charles E. Simon, B.A., M.D., Professor of Clinical Pathology and Experimental Medicine, College of Physicians and Surgeons, Baltimore; Pathologist to the Union Protestant Infirmary, the Women's Hospital of Maryland and the Mercy Hospital, Baltimore. Third, Edition, enlarged and thoroughly revised. Octavo, 351 pages, illustrated. Cloth, \$3.25 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The rapid and extensive advances of science in this field have made the revision of this work no perfunctory task, although less than two years have elapsed since the appearance of the second edition. Every line has been subjected to careful scrutiny and brought into complete accord with the latest information. Entire sections have been added and a vast amount of new material incorporated. Resultantly the new Infection and Immunity embodies

every advance in this vitally important department of medical activity, with illuminating comment which renders the material presented of easy comprehension by the student and immediately available for the use of the practitioner.

In its previous editions Simon's work gave to the profession a clear, practical, and peculiarly useful presentation of all that experimental medicine has accomplished in this field. These characteristics are retained, while the changes and additions made by the author in the preparation of the new third edition exactly measure the progress of the sciences of immunology and serology.

Dr. Simon has, in one compact volume of high didactic quality, opened up for student or practitioner the whole subject of infection and immunity. Moreover he deals with a profoundly involved subject in terms that are readily grasped. Its terminology is assimilated without conscious effort by the reader.

The author has not failed to note and comment upon every addition to our knowledge of this subject. The consideration of anaphylaxis; active and passive immunization; auto and normal serum therapy; ferment and allergic reactions; the chemotherapy of the pneumococcus and of cancer and the serum diagnosis of pregnancy have been notably developed.

The recent advances in the study of Abderhalden's protective ferments and the associated technic are exhaustively presented. The section on the Wassermann reaction has been entirely rewritten. Detailed consideration is accorded methods of minimizing the danger from anaphylactic shock during serum treatment. The author carefully reviews the observations of Schick on the recognition through allergic skin reactions of individuals whose blood normally contains diphtheria antitoxin in quantities sufficient for protection. The possibilities of better results in the serum treatment of tetanus through an improved technic is dwelt upon and the potentialities of vaccine treatment in Hodgkin's disease are suggested. Minute attention is given immunity in various diseases; to the preparation of autogenous and other vaccines; to methods of immunization, and to the technic of immunization tests.

The plates are perfect in color and conformation and are selected and placed with discrimination. The author's delightful style and successful avoidance of obscure technicalities adds to the interest of a fascinating study.

Simon's work offers the student a condensed yet adequately complete manual, in a subject whose literature is voluminous, with full attention to laboratory technic. It is, moreover, a safe guide in more extended investigations. To the practitioner

it affords that grasp of principles and methods which will enable him fully to avail himself of the aids that the modern laboratory places at his disposal in the diagnosis, control and treatment of disease.

Miscellany

Waterbury's Compound.—Four years ago the Council on Pharmacy and Chemistry reported unfavorably on "Waterbury's Cod Liver Oil Compound." Having been requested to consider again the product, now known as "Waterbury's Compound," the Council found that there was no evidence that it is a substitute for cod liver oil. It held that Waterbury's Compound is advertised with misleading claims and therefore voted that no further consideration be given to it (*Jour. A.M.A.*, Mar. 20, 1915, p. 1016).

Sanmetto.—The Council on Pharmacy and Chemistry finds that Sanmetto is a secret nostrum the exploitation of which is an invitation to haphazard, uncritical therapy and a menace to public health. It is claimed that "Sanmetto is a blending of true santal and saw palmetto with soothing demulcents in a pleasant aromatic vehicle," but neither the identity of the "demulcents" nor the quantities of the other ingredients are given. The recommendations for the use of Sanmetto are unwarranted, absurd and vicious. The advertising claims are likely to induce some physicians to belittle the importance of diseases of the sexual organs and to be content with the prescribing of Sanmetto to the detriment of the patient and the danger of the community (*Jour. A.M.A.*, Mar. 13, 1915, p. 926).

Guertin's Nerve Syrup.—This is an epilepsy treatment sold by the Kalmus Chemical Co., Cincinnati, Ohio. Examination in the A. M. A. Chemical Laboratory demonstrated Guertin's Nerve Syrup to be essentially a mixture of several bromides, the bromide content being equivalent to 13.9 grains potassium bromide per fluidram. The recommended daily dose of 4 to 8 teaspoonfuls is equivalent to 55.6 to 111.2 grains potassium bromide. While possessing all the potency for harm that resides in secret mixtures of the bromides, the purchaser of this nostrum is led to believe that it is harmless (*Jour. A.M.A.*, Mar. 27, 1915, p. 1094).

Budwell's Emulsion.—Budwell's Emulsion No. 1 is stated to contain cod liver oil, "Iodide of Arsenic," "Iodide of Calcium" and "Iodide of Manganese." Budwell's Emulsion No. 2 is claimed to contain the ingredients of the first and also creosote carbonate and guaiacol. The Council on Pharmacy and Chemistry refused recognition to these preparations because the exploitation made likely their use as "consumption cures" and because they are irrational shot-gun mixtures (*Jour. A. M. A.*, Feb. 20, 1915, p. 684).

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MOUTH INFECTIONS.*

FRANK B. WALKER, M.D.

DETROIT, MICH.

The systemic diseases, of which the causes are known, are the results of infections. Infection is the growth of one or more organisms upon or within another. There is a struggle for the mastery and tenantry between the visitors and host in every systemic disease. Indeed, the life of every organism depends upon the outcome of a constant strife for subsistence, as well as resistance, for nature in her economy has provided that all living organisms shall feed and depend for their existence upon each other. The only exception to the strife for supremacy is in the reproduction of species. In that phenomenon, no matter by which method it occurs, there is no disharmony, no purposeful subjection of either parent or offspring.

Our exact knowledge of infection is limited to some diseases of the human species and a few animals and plants, but doubtless every species of life has its infections, a condition of things Oliver Wendell Holmes probably had in mind in the following couplet ascribed to him:

"Little fleas have other fleas upon their
backs to bite them,

And these again have other fleas and so
ad infinitum."

A study of the sources of systemic diseases discloses some surprising and important observations. An investigation and comparison of the infection atriia reveal the fact that oral sepsis is responsible for more diseases of mankind than any other focus in the body. It is incongruous that the medical profession has developed dermatology, rhino-laryngology, urology, gyneeology, and several other specialties, but for so many years has failed to appreciate the field of the dental surgeon.

Billings is credited with having first understood the relation of systemic diseases and mouth conditions and with having called attention to it thirty years ago. Latterly this field has been assiduously cultivated bacteriologically and as a result the practises of both dentistry and medicine have been greatly modified.

Roentgenology also has been a most valuable aid in recognizing alveolar diseases and in checking up the dentists' work. As the X-Ray has shown many supposed sprains to be fractures and many fractures to have been allowed to go unreduced and to unite in deformed positions so has it shown many teeth with infected pulps to have been improperly filled and crowned and many alveolar abscesses to go long unrecognized.

My attention was forcibly called to this subject about three years ago when I opened a "gum boil" and advised the patient to have her teeth attended to at once. Not long afterward I opened it again. The patient told me her dentist assured her that her teeth were all right. An X-Ray examination of her jaw showed not only diseased teeth but also considerable necrosed bone. After extraction and curettment the disease was permanently cured. Since then that experience has been repeated many times in other cases.

In common with other physicians, I have recognized systemic diseases emanating from the skin, tonsil, genito-urinary, respiratory and alimentary tracts, but observation has convinced me that the significance of alveolar disease is not generally appreciated by either the dental or medical profession.

It is not long after birth that bacteria gain admission to the mouth and become permanent residents. They are numerous in kind as well as in quantity. As a rule they are non-pathologic, but if immunity be impaired in any exposed structures infection will result.

We have been well informed as to infectious processes in the mueous membranes of the mouth and in the tonsillar crypts but to many

*Read before the Wayne County Medical Society, March 22, 1915.

the peridental membrane is a borderland, as truly as though it existed outside of the body. We are all aware of the importance of the teeth in the preparation of food, but not as breeders and distributors of systemic diseases. The role of the tonsil, of the urethra and of the alimentary tract in the spread of disease is well understood but the gateway of the body has been, until recently, "practically regarded as off the premises.

Alveolar disease usually results from infection of the pulp in the root canal or of the peridental membrane. It may and does rarely occur through trauma or extension of disease of the maxillae, but commonly is merely the end result of decay of teeth and pyorrhea.

Tooth decay is the softening of the enamel and dentine following the decomposition of retained debris about and especially between the teeth. Once the root canal is reached the pulp is invariably infected and unless it be thoroughly disinfected and closed against further progress of infection alveolar disease inevitably results.

Pyorrhea results similarly from improper care of the teeth. Food and calcareous deposits accumulate about and especially between the teeth and decompose, the soft tissues become hyperemic, traumatized, inflamed and following infection with the omnipresent pus germs comes the specific infection of the dental and alveolar periosteum with end amebas, constituting pyorrhea.

Pyorrhea is almost universal. Bass and Johns of New Orleans have studied over three hundred cases of pyorrhea and recently reported the disease present in more than 95 per cent. of adults examined. Its great importance is indicated by the fact that to it is due an estimated loss of more than half of the permanent teeth.

Pyorrhea usually begins about the back teeth. Once established and neglected the destructive process extends along the peridental membrane until the bony socket is reached. Sooner or later the attachments of the tooth are destroyed, the tooth is lost and the alveolar process absorbed. The disease spreads from tooth to tooth and the destructive process is repeated. In the meantime according to the number of years during which the thirty-two teeth more or less have rotted out, an immense amount of pus has been produced, swallowed and absorbed and its effects manifested in a variety of systemic diseases.

Dental and medical literatures are fast be-

coming replete with case reports demonstrating these facts. They include adenitis, acne, boils, headaches, torticollis, neuralgia, myalgia, arthritis, endocarditis, appendicitis, gastric and duodenal ulcer, biliary tract disease, pernicious anemia and doubtless there will be added many other secondary affections, the associated relations of which to oral sepsis has not yet been observed.

The best treatment for mouth infection is prophylactic. Persons who would look with disgust upon unclean dishes and table utensils harbor unclean teeth for months and years. We can all improve present conditions. The much vaunted tooth brush has proven to be an excuse and a deception. At best it can only shine the teeth and incidentally affect and prevent about 10 per cent. of mouth infection. It is estimated that fully 75 per cent. of dental caries begin between the teeth. To cleanse the interdental space dental floss, preferably the waxed material, impregnated with cleansing powder, offers the best known means for daily use. The assistance of an intelligent dentist will be required frequently to remove calcareous deposits.

For those whose pulps and peridental membranes have become infected through dental caries and calcareous deposits, precise antiseptic treatment with thorough drainage will be needed persistently to forestall or cure alveolar infection, osteitis, bone necrosis and systemic disease. In all operative work even in remote parts of the body the condition of the teeth should be a matter of concern to the surgeon. In this field team work will often be required of physician and dentist.

Mouth infections have been found to be susceptible to medical treatment. Years ago ipecac was proved to be efficacious in amebic dysentery. When the specific cause of pyorrhea was discovered to be endameba, ipecac and its alkaloids were found to be specific in its treatment, but they must be administered at intervals in infected cases to prevent reinfection. Vaccines also have been shown to be valuable adjuvants. Rosenow has made an important contribution bearing on this subject. He has observed that the characters of the micro-organisms in the primary and secondary lesions may be different and that in consequence autogenous vaccine made from the primary focus may not contain the proper antigen.

It is not to be assumed that alveolar disease is always primary even in the presence of systemic disease. It should nevertheless be cor-

reected since other treatment is liable to fail so long as there exists an active focus of infection. The hematogenous character of systemic disease due to infections and the localization of infective micro-organisms are facts of tremendous significance. We have already learned to associate rheumatism directly with tonsillitis, alveolar and sinus disease and have now come to understand that these infections develop anaphylaxis from the constant poisoning, the results of which are manifest in hay fevers, asthmas, urticarias and other affections.

The relations between primary and secondary lesions may not be obvious; they may even escape detection by methods known to-day, but we are convinced that the theory of idiopathic disease is doomed.

NEURO-RETINITIS—WITH REPORT OF CASES.*

A. E. BULSON, M.D.

JACKSON, MICH.

In the discussion of this topic I have thought it would be of more interest to those present to give some of the more prominent forms of this eye lesion and leave further consideration of the subject to general discussion.

Amblyopia, weak sight, dull sight, amaurosis and blindness. These terms are generally used to designate disturbances of vision and do not result from dioptric hindrances. In amaurosis we are confronted with that condition once defined as the one in which "neither the patient nor physician can see anything." We include, however, in this classification progressive disease of the optic nerve, which may and frequently does develop in many of these cases of impaired vision.

The absence of pronounced changes at the outset warrants us in associating it with amblyopia and amaurosis, without any definite or fixed knowledge as to the real pathological causes producing the impairment of vision. In every case we should look for disturbances of the optic nerve, chiasm, optic tract or the brain. An inflammation of the optic nerve may develop at any spot along the course of the nerve. To be visible, it must be situated in the optic papilla and then only by the aid of the ophthalmoscope can we see it. In such cases as can not be seen by the ophthalmoscope, but present symptoms which may be considered characteristic of an inflammation further back, we would at once regard it as "retro-bulbar" (VonGrafe).

Simple hyperemia of the nerve is of frequent occurrence and is a constant accompanist in all inflammations of the retina.

When an inflammation of the retina becomes so extensive as to involve the optic nerve, or vice versa, when an inflammation of the optic papilla has extended so far as to involve a pronounced area of the retina, we then have a clear picture of "neuro-retinitis." The two forms of neuritis are not so widely separated as we have been led to suppose, since numerous transition forms occur between choked-disc and descending neuritis. The theory advanced by several of our more prominent oculists, that choked disc could readily be accounted for by reason of simple mechanical engorgement, has been questioned by many oculists, but the fact, I believe, remains unchanged, that the process of simple hyperemia acts as an important factor in the development of congestive neuro-retinitis. In my own experience I think the greater per cent. are of this character, especially those cases of toxic hyperemia and are usually monocular in variety. Statistics are numerous and settled regarding the intimate relation existing between central diseases of the brain and disturbances of the eye, and in the majority of cases of optic neuritis, central brain disturbance is the direct cause.

In lesions of central origin, engorgement of the nerve is produced by direct pressure within the cranial cavity, as from brain tumor, meningitis, syphilis, and the whole class of exanthematous diseases. On the other hand, in disturbances of nutrition, caused from uremia, diabetes, tubercular meningitis, leucocythemia, etc., are caused by direct transmission of the brain disturbance to the optic nerve and retina.

In every case in which there is even suspicion of cerebral disease, it is needless to say that the fundus should be examined. This is particularly important, as choked disc may be present, but not manifest by any pronounced disturbance of vision.

Various authors explain this by assuming that in choked disc there is simply a state of edema and disturbance of function. This, however, may go on rapidly, producing compression of the nerve fibres and, ultimately, rapid impairment of vision. The degree of compression cannot be satisfactorily determined in any examination we may institute. I call to mind at least three cases, where blindness did not appear until we had rapid degeneration of the optic nerve, and then it became rapidly manifest.

*Read before Calhoun County Medical Society, March, 1915.

In some cases of progressive neuro-retinitis in the early stages, the examination by the ophthalmoscope is distinctly negative, with the exception perhaps that the arteries appear much smaller. In this condition we look for the cause to be in the optic nerve, in its extra bulbar course and then distinctly retrobulbar.

The failure of sight is always governed by the character and intensity of the inflammation of the nerve. In rare cases, active at the outset, even perception of light may be lost in a few days, when to all external appearances the eye may appear normal with the exception perhaps of slight dilatation and fixation of pupil. The exciting causes in the acute form, may be from lead poisoning, suppression of the menses, the glare of electric lights, sudden colds, nicotine poisoning, etc., and in some it is impossible to satisfactorily demonstrate the cause of the rapid loss of vision. The above have been ascribed as the general causes of amblyopia, and the greater per cent. are monocular in variety. The rule is that recovery takes place in this form of neuro-retinitis (of course excluding central brain lesions), but prompt and vigorous treatment must be instituted from the first to insure the most favorable results. Many cases might be mentioned where neuro-retinitis of one or both eyes has been successfully treated when seen immediately following the initial stages of the attack, but I am sorry to say that but seldom do cases of this character come into our hands until advanced progressive disease is manifest.

The chronic form of neuro-retinitis is very different. Those cases that have gone from "pillar to post," in hopes of getting relief at the hands of various doctors, are cases, as a rule, that are central and slow of development. In fact the disturbance of vision may be so gradual that it is often difficult for the patient to even tell when the first noticeable change took place, but the majority bear this record that the reduction of visual acuity marches steadily on until there appears a troublesome mist, or cloud which attracts attention, and continues to grow dark until sight is entirely shut out. This is particularly true of tobacco amblyopia, where the failure of vision may have been practically unrecognized for many months, there being simply a haziness, but not sufficient to attract attention, and this usually continues until rapid degeneration of the nerve and retina takes place, as a secondary condition, when failure of vision becomes rapid.

I call to mind four cases of this character

which have come under my observation during the past two years, and have at present five other cases under treatment. In three of these cases the first noticeable changes in vision were monocular, while the other six were binocular from the first. This is decidedly contrary to the usual rule, as statistics show that the monocular variety predominates. It is needless to say that in well marked cases of neuro-retinitis with pronounced pallor of the papilla and thread-like vessels, indicating profound implication of the retina and nerve, the field of vision is very markedly reduced early in the disease. This is noticeable also in the field for colors, and, in fact in cases that I have seen early in the disease I have noticed this defect in the color sense as among the first symptoms of neuro-retinitis. This is particularly true of tobacco and alcohol amblyopia.

It is not my purpose in this paper to give the pathology and treatment of neuro-retinitis, but only in a general way in the report of cases which I shall mention.

CASE 1. Aug. 15, 1912. J. A. W., age 36; an official of Lake Shore R. R. Noticing a decided failure of his vision, he consulted me for glasses, thinking this was what he needed. General health good. No specific history. Has always been strictly temperate, with the exception of being an inveterate smoker. Says he smokes from ten to fifteen strong cigars per day.

Examination.—O. D. vision = 20/100 tension normal, media clear, iris responds slowly, optic disc indistinct and pale; arteries smaller and threadlike. O. S. vision 20/40, tension normal, media clear, optic disc practically normal with perhaps somewhat smaller arteries.

Examination.—Urine, negative.

Diagnosis.—Tobacco amblyopia. When told that tobacco was the whole cause of his failing vision, he was very much surprised, but admitted that he thought he was smoking too much. I informed him that his vision would be restored providing he discontinued entirely, the use of tobacco, to which he consented very reluctantly. The treatment was iodide potassi, strychnia and atropia to full mydriasis for about two weeks. Three months from date of commencing treatment his vision had increased in O. D. to 20/50 and correspondingly same in O. S. Six months from commencement vision O. D. 20/30 and O. S. 20/20. At this time I examined him for glasses. In O. D. he accepted +0.50 = C. +50 ax 90. O. S. +.50 = C + 50 ax 135. Vision = 20/20 both eyes.

I regard this as a typical case of tobacco amblyopia, and had the case been allowed to continue as at first, my impressions are that there would have been irreparable injury done to the nerve and retina, and the practical im-

possibility of restoring the function to anywhere near normal vision.

CASE 2. Dec. 12, 1911, Mr. G. W. N., 21 years old, fireman Lake Shore R. R., complained that he had been laid off because of color blindness. General health good. No history of specific disease. Claims he has always been temperate in everything. He does admit that he has been using tobacco unreasonably, that he smokes cigarettes, cigars and his pipe most of his waking hours, claims he can work better, that it soothes his nerves and keeps him in perfect poise.

Examination.—O. D. v. = 10/200. O. S. 10/30, tension in both eyes practically normal, media clear. Arteries in O. D. small and threadlike. Disc pale and outlines hazy. No marked changes in retina. No pain. Urine examination negative. Color blind in green and red, both eyes.

Diagnosis.—Tobacco amblyopia.

The treatment was total abstinence of tobacco. Hydriodic acid, strychnia. Atropia was used at intervals during the course of treatment. Was seen about once per week for six months at which time he was examined in color blindness and for glasses. The yarn test of Thompson was used and every color was correctly placed.

Examination at Toledo and taken back as fireman. I gave him explicit directions to abstain strictly from smoking and he promised he would, but in a few weeks he thought an occasional smoke would do him no harm, which of course was indefinitely increased until the old regime had been practically restored.

In October, 1914 he was again examined by the Railroad Co. and found to be blind for the same colors, green and red, and laid off from work.

It will be seen that he went three years lacking three months from the first attack.

The vision in O. D. = 20/100 and O. S. 10/30. The treatment was practically same as at first with the exception that I gave potassi iodide et resub. iodine in the place of acid hydriodic. In about four months he again passed examination by the railroad and resumed his work as locomotive fireman.

CASE 3. March 4, 1915. Mrs. L. R. age 34. Married and mother of four children. Resides at Munith. Presents the following history.

Had considered herself in fairly good health up to two months ago, but admits that for several months her menstruation has been irregular and scanty. The last two months she has had a considerable pain through the globes of both eyes, back of head, and vertigo. About this time she noticed a blurring of vision, more marked in left eye. On account of this failure of her vision and headache she consulted her family physician who placed her on general treatment. The examination of her urine at this time was negative.

Her vision continued to fail rapidly, so that it was with difficulty that she could see to get around and attend to her ordinary household duties.

Examination.—O. D. v. = 10/200, tension normal. Media clear. Iris readily responds. Optic disc hazy and indistinct, with marked retinal changes. O. S. v. = 0. Quantitative only. Tension slightly below normal. Iris slightly dilated and sluggish in action.

Cannot examine fundus on account of apparent hemorrhagic infiltration into vitreous. Examination of urine negative. Blood pressure 170. Menstruated two weeks ago, but scanty and no relief from headache and vertigo.

Diagnosis.—Diffuse hemorrhagic neuro-retinitis. I am frank to say that the etiology in this case is attended with marked uncertainty. The examination of the urine having been negative from the first, precludes light in the case from this direction, but hemorrhage into vitreous, with a history of scanty menstruation would throw the preponderance of evidence as to the etiology in that direction.

The treatment has been alterative from the first. Potassa iodide, resub. iodine t. i. d. Mercurial inunctions and salines. Used mydriasis first two weeks, with perfect rest and shades to eyes.

The case has been under observation twice per week since March 4th. At this time, April 6th, her vision has shown a gradual improvement. O. D. 10/50. O. S. can count fingers two feet. Can indistinctly outline the optic nerve, and retinal vessels. By changing position of globe, can readily see flocculi floating in vitreous. My impressions are the improvement will continue.

CASE 4. Miss M. H., age 27, applied to me, January 28, 1912, with the following history: She has taught school the past eight years, and enjoyed the best of health up to two weeks ago. At the present time she complains of constant headache and pain through the eyes and temples caused, she thinks, by the loss of sleep during the sickness and death of a sister. In addition to this, she has taught her department in school daily. The functions of the body are normal. The last week she has noticed a marked diminution of vision and blurring in the left eye, and is greatly alarmed about it.

Examination.—I found the vision in O. D. = 20/30; O. S. 20/200. The fundus of right showed simply, slight hyperemia, while in the left there appeared to be extensive neuro-retinitis, with swelling and indistinct papilla involving the whole field of retina. On the upper and nasal side of the field were many small hemorrhagic, flame-shaped spots. The arteries were small, and circulation was evidently much diminished. The veins were more prominent, full and tortuous. Urine examination was negative. Blood pressure 128.

This is another case where the etiology is in doubt. Perhaps the nervous tension in the care and death of her sister was sufficient to explain the cause, but to all appearances not sufficient to clearly attribute it to the rapid failure of her vision.

The treatment in this case consisted in absolute rest of the eyes, the use of a mydriatic potassa iodide and tonics, with open air exercise, and protection of eyes from light, by wearing smoked glasses. In four weeks time there was a decided improvement of her vision. In six weeks more, ten weeks from the beginning of treatment, she was examined for glasses with the following results:

O. D. 20/20. O. S. 20/30. There was simple hyperopia in O. D. and hypermetropic astigmatism in O. S., vertical meridian. Home atropia was used.

Having heard nothing farther from the case I take it for granted that the eyes have continued normal.

INFECTIOUS JAUNDICE.

WM. DONALD, M.D.
DETROIT, MICH.

I desire to report herewith a series of eight cases of infectious jaundice so-called, which occurred in my private practice during the months of December and January last. This type of jaundice is given scant recognition in the ordinary text-book, and is only occasionally seen by clinicians. Hence, this group of eight cases occurring so closely together should be interesting and valuable in the study of disturbances of the biliary or hepatic functions.

The term "Infectious Jaundice" has been applied to that type of icterus which is found occurring in groups or in series without ascertainable causes, such as gall-stones or cirrhosis. The etiology has never been properly elucidated. In my cases, occurring, as they did, during the months of December and January last when influenzal infections were extremely common, the possibility of an infection of the bile ducts with the bacillus Pfeiffer was considered an etiologic possibility. No blood cultures were made.

These eight cases occurred in three families on the east side of Detroit, each family being separated from the other family by at least one-half mile. In each family, the children were taken sick within a few days of one another. The different families did not use a common milk, grocery, or meat supply, hence the food and drink could be eliminated as causative factors. All of the cases occurred in children, their ages ranging from 4 to 13 years. Four cases were found in one family, and two cases in each of the other families. The duration of the disease was short in every case except one. One week usually cleared up the trouble, but in this one case under discussion, three weeks elapsed before the jaundice was finally removed.

The symptoms were more or less uniform in all except two of the children. There was found the ordinary evidences in six of the cases of a catarrhal jaundice, namely malaise, weakness, drowsiness, irritability with a slight fever, and progressive icterus.

In the two exceptions, the symptoms varied greatly. In one, the oldest of the group, a girl of 13, an exceedingly severe basal headache developed almost immediately and lasted for nearly a week. This headache, with the other symptoms accompanying it, was so severe, that the girl was examined very carefully for a possible meningitis. She had a projectile vomit-

ing, with a slight retraction of the head, and a temperature of 102° F. The suspicion of a possible meningitis was removed by the relief of the symptoms as soon as the icterus appeared on the skin, the patient going on after this to a slow recovery.

The other exception to the rule of mild infection in these cases was a boy, aged 4, who manifested gastric irritability and vomited almost incessantly for three days. He suffered, however, but slightly with headache, fever, and other constitutional symptoms. The appearance of the jaundice in the skin marked with him likewise the relief of the gastric and other unpleasant symptoms.

The treatment in all cases was practically the same except in the two severe cases just mentioned. Rest, diet, abundance of water, and time, were the factors used. In the two exceptions mentioned, it was necessary to adjust more strenuous measures for the relief of the headaches in one case, and the vomiting in the other. However, the treatment in all cases might be characterized as expectant. Since their recovery, I have seen them repeatedly, and none of them have shown any evidences of trouble such as cirrhosis or cholelithiasis.

I am impressed with the probability of the infective agent being that which I mentioned in the first part of my article, namely the bacillus Pfeiffer.

STRYCHNINE AND CAFFEINE IN THE
ACUTE INFECTIOUS DISEASES.*

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For many years most of us have regarded strychnine as our sheet anchor in the threatening or existing collapse which occurs at the height of acute infectious disease, and we have been disappointed in the results. Many failing to get the expected response from strychnine have turned to caffeine, yet without satisfaction.

It is not the object of this paper to discuss the treatment of the acute infections but simply to ascertain, if possible, whether our reliance on these so-called cardio-vascular stimulants is justified.

The heart receives its stimulation through the accelerator or augmentor nerves, while inhibitory impulses reach it through the pneumogastric. The arteries are wholly under the control of the vaso-motor center, and while

*Read before the Kent County Medical Society, April 28, 1915.

there is a normal, continuous arterial tonus which conserves the circulatory equilibrium, it is yet very susceptible to stimuli. Also, the muscular tissue of the heart is supposed to be particularly sensitive to the toxins arising from the acute infections, or, as Newburgh says:

"It is one of the axioms of clinical medicine that the heart muscle may be so seriously damaged in the acute infections as to be an important source of death. The symptoms which (it is alleged) signify approaching heart failure of this type are rapid pulse, irregular pulse, dyspnea, cyanosis, increased area of cardiac dullness and weak heart sounds.

"Space does not permit a discussion of each one of these symptoms but occasion will be taken to point out that at least the cyanosis and dyspnea may not be of cardiac origin; that an increased area of dullness is a rare finding in this connection, and that most clinicians have great difficulty in judging of the relative heart sound."

Romberg, Paissler, Bruhns, Muller, McCallum and others, have, by means of animal experimentation, practically shown that the death which occurs at the height of an infectious disease, is *not, exclusively* the result of direct injury to the heart, but rather that the vaso-motor system is paralyzed. Clinicians almost universally accepted this and continued their use of strychnine and caffeine more confidently because they were supposed to be powerful vaso-motor stimulants. But it has been recently shown that the vaso-motor apparatus does not fail, in pneumonia nor diphtheria. In 1908, I showed by the results of animal experiments, that neither in surgical nor traumatic shock was the vaso-motor system paralyzed. In 1912, at the meeting of the Michigan State Medical Society, I advanced the proposition that there was neither cardiac nor vaso-motor paralysis at the collapse of infectious diseases.

"In 1914, Porter and Platt found the vaso-motor reflexes normal in all stages of diphtheria and pneumonia. Therefore, if the vaso-motor apparatus is normal in pneumonia and diphtheria, it may justly be assumed that it also maintains its integrity in other acute infections."

Under the assumption that prevailed a few years ago, cardio-vascular stimulants were always given freely and with confidence when collapse threatened. Of these strychnine was the drug that was almost universally given because it was believed that it raised the blood pressure, slowed the pulse and increased the force of the heart. But Newburgh says:

"Search through the literature shows that there is not a single piece of experimental evidence to warrant such a belief."

He also says:

"When the use of strychnine in myo-cardial disturbances is impartially investigated, it is found that the evidence all points in one direction. Pharmacologists have shown that strychnine is without effect on the heart until given in doses so large that death from convulsions invariably ensues. Clinicians have demonstrated that strychnine is of no benefit in the treatment of acute or chronic heart disease."

Cabot, in studying the action of strychnine in fevers, as to blood pressure, made 5,000 measurements in thirty-one cases of typhoid, four of pneumonia, and fifteen others. The total result was negative. He was unable to convince himself that strychnine exerts any influence on the blood pressure in febrile cases.

Many clinicians, when disappointed in strychnine, turned to caffeine because of its stimulant action on the cardio-vascular system. As to its beneficial action there has been much disagreement, but in 1911, Sollman and Pilcher made such careful experiments as to warrant them in expressing a well grounded belief. They say:

"The circulatory effects of moderate doses of caffeine consist in vaso-dilation combined with sufficient cardiac stimulation to maintain or even increase blood-pressure. Both of these activities favor the blood-flow. The oncometer shows conclusively that the moderate rise of pressure which is observed in anesthetized animals is, in most cases, exclusively cardiac."

We may conclude then that caffeine does not stimulate the vaso-motor center, but that it does moderately stimulate the healthy heart. As to its effect on diseased hearts more study is required.

Newburgh (L. H.) made a series of careful experiments to determine the action of strychnine and caffeine on the heart in infectious diseases, and these are his conclusions:

"I. There is no evidence that the vaso-motor apparatus is injured in the acute infectious diseases.

"II. The evidence at hand does not permit us to say whether or not the functional activity of the myo-cardium is seriously impaired in the acute infectious diseases.

"III. Strychnia sulphate, in medicinal doses, does not increase the out-flow of blood from the heart, slow the pulse, nor materially raise blood pressure. There is no logical basis for its use as a cardio-vascular stimulant.

"IV. Caffeine-sodio-salicylate, in the doses employed, does not raise the blood pressure nor slow the pulse.

"Our method does not permit us to say whether caffeine increased the blood flow in the cases studied."

Now, the circulatory conditions in this collapse which occurs in the course of the acute infections, manifest themselves by a pulse which grows increasingly small and rapid until it cannot be felt. And by blood pressure measurements. The testimony is that during the course of the infectious fevers, the blood pressure varies but little. It fluctuates somewhat but as the fatal termination approaches it rapidly falls. These conditions have been accepted as being incontrovertible evidence that death was caused by cardio-vascular failure and should be combatted by the administration of cardio-vascular stimulants. If this interpretation of the clinical conditions is correct, the administration of such stimulants is most certainly indicated. But the fact is, as has been repeatedly demonstrated, and as has been observed by each one of us, that the free administration of strychnine and caffeine, singly or together, when the collapse has occurred, or indeed when it is imminent, does no good. Whether it does harm is a question for further study.

The fact that the administration of strychnine and caffeine does not influence the circulatory conditions favorably, would indicate that either the circulatory conditions are other than we have always believed or that strychnine and caffeine are not cardio-vascular stimulants. It may be that both opinions must be revised. Stevens, in 1909, classes strychnine among "the spinal cord excitants" but says, "in full medicinal doses strychnine raises the blood pressure and slightly lessens the frequency of the pulse." He attributes the rise in blood pressure to vaso-constriction from stimulation of the vaso-motor center and says, "the heart is stimulated feebly if at all." In speaking of caffeine, he says, "The effect of therapeutic doses is generally to increase the rate of the heart, and also slightly, the output of blood per unit of time."

Both drugs are said to be stimulant to the circulatory system, but only slightly so. Therefore we are brought to the question, Why are these drugs of no avail in this condition of collapse? Is it because of their inefficiency, or is it because we are mistaken as to the pathology of the condition?

It has been shown, conclusively I think, that in this condition there is no paralysis of the vaso-motor center, as has long been the belief, but that does not prove that there is a gradual weakening of the heart muscle. May it not be possible, however, that we may find the heart contracted as has been found to be the

condition in some cases of severe strain, as in athletic contests? Formerly all cases of collapse after severe exertion were termed "Acute heart failure" or "Acute dilation of the heart." But recently it has been proved by a number of experimenters that the heart is often contracted—is in a condition of hyper-tonus instead of being dilated. Williamson says, as the results of a series of experiments to determine the size of the heart during and after exercise, that

I. The normal heart responds to any exercise within its power, by a diminution in size.

II. About one-half of the pathological hearts, which are in a condition of good compensation respond to exercise within their power, with a diminution in size.

III. Approximately one-half of the pathological hearts, with manifest, but low grade broken compensation, respond in the same manner, by some degree of diminution in size.

If this be the case we can understand how all kinds of cardio-vascular stimulants would be contra-indicated, and cardiac depressants would be more likely to be of benefit.

Newburgh says, "It is true that a very rapid pulse is an ominous sign in the acute infections, and that an agent which can reduce the heart beat under such conditions must be considered a valuable therapeutic possession."

If this statement is well founded, might it not be not only justifiable but even demanded that such a remedy be given until its effect on the pulse is shown? In such cases no remedy is more manageable and more certain in its results than veratrine, *intravenously administered*.

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MORPHINISM—ITS TREATMENT AT HOME—THE HARRISON LAW.

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It is not the object of the writer to convey the idea of presenting something new in the treatment of morphinism but rather to emphasize the fact that these cases can, and are, successfully treated in the patient's home, the method of treatment followed in the cases, and also that many of these supposed incurable cases are curable. With the advent and enforce-

ment of the Harrison Anti-Narcotic Law the treatment of these cases become an absolute necessity. Many articles have appeared from time to time, and without exception, stress is laid on the fact that patients must be treated in institutions especially prepared to care for this class of cases. Inference is frequently made that these cases are not suitable for home or private treatment and it is to this statement that I am taking exception. What is to become of the unestimatable numbers who are unable to avail themselves of the advantages of institutional treatment?

I am desirous of reporting the following case because it was successfully treated at home, the only assistance being the patient's daughters. My reasons for reporting this case is that it has been successful in an almost hopeless case; that many cases that are considered as incurable from existing conditions are curable; and, above all, I have gone into details as to treatment, in that it may be of assistance to other physicians in treating cases under similar conditions.

Patient.—Mrs. X. Age 55; family history negative. At the age of 32 patient had nodular growths appearing on the left leg, metacarpal bones of both hands and numerous hard circumscribed growths throughout the cranium. Diagnosis of osteo-sarcoma was made, and the left limb was amputated at the junction of the upper and middle third of tibia. Subsequently seven osseous tumors were removed from the scalp. The amputated extremity was sent to a New York Hospital and the diagnosis of osteo-sarcoma was confirmed. At the time of these operations the patient was started on morphine and chloral hydrate on the supposition that she would be unable to stand the pain from the multiple sarcomas. Later the chloral was discontinued. As a result the patient has been using morphine for twenty-three years with a gradual increase in dose, taking as much as grs. xxx per day over a considerable period of time. During the past six months patient has taken grs. xvi per day.

TREATMENT.

For two weeks prior to instituting active treatment the morphine was gradually reduced to gr. viii per day, on the supposition that the shock would be less from the minimum dose of morphine.

For the sake of brevity and to avoid repetition I will give the following perscriptions and in the future will refer to them by their numbers:

- ℞ 1001.
- P. Aloes gr. v.

Mass Hydrar. v.

Fiat Capsule

- ℞ 1002
- Scopol. HBr. gr. 1/200.

Philocarp. Mur. gr. 1/24.

Dionin. gr. 1/4.

F. E. Cas. Sag. m. viii.

Alcohol m. xv.

Aqua Des.m. viii.

- ℞ 1003
- Scopol. HBr. gr. 1/200.

Liq. carmine m. 1/40.

Aqua m. xxx.

First Day.—Temp. 96.6. Pulse 96. Resp. 32. Blood pressure 170. ℞ 1001 at 10 A. M. ℞ 1002 every 3 hours. Morph. Sul. gr. iii at 10 P. M.

Second Day.—Temp. 97.1. Pulse 92. Resp. 30. Blood pressure 165. ℞ 1001 at 10 A. M. resulting in 8 stools during the day. ℞ 1002 every 3 hours. Morphine Sul. gr. ii at 10 P. M. Much craving during the day and night previous. No sleep but would occasionally doze off for a minute. Was very restless. Complains of excruciating pains in the extremities. Much abdominal pain due to the severe vomiting every 15 to 30 minutes and the severe diarrhea. Warm abdominal applications. Three placebo tablets at 10 P. M. followed with one hour sleep. No appetite. Awake after 11:30 P. M.

Third Day.—℞ 1001 at 10 A. M. but vomited up capsule in two minutes. Discontinued on account of persistent diarrhea. ℞ 1002 every two hours. Some vomiting but not so severe, abdominal pain diminished. Ashy gray color of skin showed some flushing for first time in years. Although patient slept some during the night she awoke at 5 A. M. and read until 9 A. M. Previously contracted pupils showed some dilatation for the first time and she could read better than for years. Pains throughout the body markedly diminished. At 10 P. M. patient was offered placebo tablets, supposed to be morphine, and she stated she had no desire for them.

Fourth Day.—Temp. 99. Pulse 96. Resp. 30. Blood pressure 160. ℞ 1001 discontinued on account of severe diarrhea. Twelve stools during the night. ℞ 1002 every four hours. Complains of inability to sleep but attendants say she dozes off occasionally. Has started to show signs of scopolamine delirium i. e. picking at clothes, incoherent statements, states she was writing letters, etc. Easily aroused. Appetite improved. Perspires freely. Sat in chair one hour.

Fifth Day.—Temp. 98.4. Pulse 96. Resp. 30. Blood pressure 160. ℞ 1002 every eight hours. ℞ 1003 every eight hours. i. e. Alternating 1 ℞ every four hours. Much improvement. Slept three hours during night. Some appetite. No craving for morphine.

Sixth Day.—Temp. 98. Pulse 106. Resp. 30. ℞ 1002 discontinued. ℞ 1003 every four hours. Severe diarrhea started up during the night. Vomiting every half hour and after both nourishment and water. Very weak and unable to set up for more than a few minutes evidently due to the vomiting

and diarrhea. Appetite somewhat improved but refuses food on account of vomiting. Sherry cordial oz. ii every two to three hours during night relieved the vomiting and diarrhea.

Seventh Day.—Examination negative. R 1003 every six hours. Epigastric pain, vomiting, and diarrhea much improved apparently due to the Sherry cordial. Sets up for three hours, somewhat weak. No craving.

Eighth Day.—R 1003 every eight hours. Sets up most of day; reads, no craving.

Ninth Day.—R 1003 at 10 A. M. and 10 P. M. Up and about the house all day; appetite improving; no abdominal pain; no craving.

Tenth Day.—R 1003 at 10 A. M. Strych. Sul. gr. 1/60 every six hours. Remained up entire day and took a short walk.

Eleventh Day.—Examination negative. Blood pressure 160. Strychnine sulphate gr. 1/60 every six hours. Patient has occasional periods of depression but no desire for the drug.

Further recovery was uneventful.

At the time of the preparation of this article the patient's general condition has shown marked improvement; she is sleeping from eight to ten hours every night; her appetite has improved and the characteristic ashy grey color of the skin shows considerable flushing, giving an entirely different appearance to the patient.

From the results obtained in this case I believe that the greater percentage of the cases of morphinism can be successfully treated by the general practitioner in the patient's home. The prescriptions are not to be left, however, with the patient but with their attendants for administration.

For obvious reasons the case herewith presented was considered almost a hopeless case; the patient having taken morphine for twenty-three years, was 55 years old at the time of taking treatment, was taking the morphine for

the multiple osteo-sarcomas for which one limb was amputated, made the case a very unfavorable one from the start.

The method of treatment is essentially that advocated by Dr. Seeleth of the Seeleth Emergency Hospital of Chicago.

I note in a recent issue of a medical journal that the Harrison Law "Works hardship on medical men"—"sends dope habitues to the insane asylum and cemeteries—"deplorable"—"will not last long," etc. If the Harrison Law did nothing further than relieve this one patient from the untold misery, pain, suffering, humiliation and mental anguish the efforts of our legislators have been well repaid.

That the law works a minor inconvenience on the medical profession one cannot deny, but does it not check us up on the indiscriminate and possibly reckless use of morphine on innocent patients? Is it not a fact that 85 per cent. of cases of morphinism are primarily started by our medical profession? It is my opinion that the federal government has acted both wisely and justly in enacting a law governing the dispensing of narcotics. Is it not a fact that had we, as physicians, been more discrete and cautious in the use of these powerful narcotics that the law would have been unnecessary. Why should we now object to a gentle censuring by the government of a condition of which we, as physicians, have been more or less responsible in creating?

In conclusion I want to heartily endorse the principles involved in the Harrison Law and sincerely hope that it may be the means of eliminating one of the most pernicious vices, the responsibility of which has been, either directly or indirectly, attributed to the medical profession.

Lactobacilline Omitted from N.N.R.—The Franco-American Ferment Co. is offering its Lactobacilline preparations direct to the public. The company has distributed circulars in which the public is informed that auto-intoxication is the cause of innumerable ills, that the Bulgarian bacillus is a "wonderful corrective or remedy" for such conditions and that the Lactobacilline products and—by inference—the only reliable products. In view of the action of the Franco-American Ferment Co. and the tendency to cause the public to exaggerate slight ailments into alarming conditions, the Council on Pharmacy and Chemistry has deleted the Lactobacilline products from New and Nonofficial Remedies (*Jour. A.M.A.*, April 17, 1915, p. 1346).

The Quality of Bland's Pills.—An examination of the various brands of Bland's Pills supplies by manufacturing houses, made in the A.M.A. Chemical Laboratory, refutes the commonly assumed stability of ready made Bland's pills. On the other hand it is shown that the Bland's pills on the market are not very reliable as to the amount of iron present, the variation ranging from 77 to 183.2 per cent. of the claimed amount of ferrous carbonate. The different brands also differed widely in their ease of disintegration. The special forms, such as the "nascent" preparations, the "soft mass" pills and the gelatin encapsulated oily suspension, sold as "Frosst's Bland Capsules," showed no advantage over the ordinary kind (*Jour. A.M.A.*, April 17, 1915, p. 1344).

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, April 14, 1915

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

UNDER WHAT CIRCUMSTANCES IS CRANIOTOMY ON THE LIVING CHILD JUSTIFIABLE?

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The members of the medical profession, like the majority of people, are fond of aphorisms. They like dogmatic statements in preference to those supplemented by exceptions to the rule. Hence to a profession, filled with abhorrence at the destruction of the unborn child in order that delivery can be accomplished, the dictum that under no circumstances is it ever justifiable to perforate the living fetus is very acceptable. For many years obstetricians have been working toward this position, since every craniotomy is a confession of a partial defeat at least, even if thereby the mother's life is preserved. For years the terrible butchery of the unborn went on until the various operations having to do with the delivery of the child had been so perfected as to give the mother a fair chance when they were resorted to. Forceps and version, their indications and contraindications were first perfected. Then came symphysiotomy and pubiotomy, and finally Cesarean section. Hand in hand with the perfection of these various obstetric procedures went the realization that septic infection is the result of the introduction into the puerperal tract of micro-organisms and that certain precautions on the part of the obstetrician can largely do away with this source of maternal and fetal death. Thus, as I have said, the profession was all too willing to agree to the statement that craniotomy on the living was never justifiable and that the operation was practically obsolete. But while the profession accepted such teaching, it by no

means always put it into practice as the general practitioner and the consultant full well know. In fact in many cases the statement intended to benefit both mother and child acted in just the contrary manner and not only resulted in the death of the child but seriously menaced the life of the mother or resulted in such injuries to her soft parts as to render her an invalid.

We have only to review our obstetric work to realize the truth of these statements. How many cases can we recall under our charge or when we were consultants in which it would have been far wiser to perforate the living fetus than to carry out the procedures adopted? How familiar is the picture of dystocia due to a small pelvis and a normal child or a normal pelvis and a large child, when delivery was finally accomplished but with what expense to the mother and child. The latter was either killed in utero by cerebral compression, died shortly after birth from injuries received during extraction, or lived the victim of paralysis, idiocy or epilepsy, conditions directly traceable to parturitional injuries. And the mother in addition to the loss of her child is the victim of these misdirected attempts at delivery. She either loses her life from sepsis or suffers in after life from its results, to say nothing of symptoms referable directly to lacerations of the soft parts totally unnecessary if the disproportion between the pelvis and the child either had been diagnosed early or had been remedied by lessening the bulk of the child. And the fetus, in the large majority of cases is destroyed just as effectively as if it had been perforated. Has the obstetrician any reason to be proud of the fact that he has succeeded in delivering a dead baby with an unperforated skull? On the contrary if the mother has been severely injured by his efforts at delivery he has

that on his conscience in addition to his failure to extract a healthy, living child. Yet in many instances he has hesitated to perform craniotomy because the operation is in disrepute, hesitated against his better judgment when in reality he felt there was no hope for the child and that by failure to reduce its size he was lessening the maternal chances.

I do not say that all practitioners hesitate under these conditions; assured of their position in their community they do whatever in their opinion is for the best interests of their patients, and always perforate the dead fetus and some times the living if thereby they feel that they are adding to the mother's chances while not necessarily affecting the outcome in the case of the child.

Now I hold no brief for craniotomy on the living or dead child. I believe if the pregnant patient from the beginning of labor be in a well equipped maternity hospital in skillful hands or under the charge of a competent practitioner skilled in obstetrics, craniotomy on the living or dead fetus will be rarely if ever necessary. But since these conditions hold only in a small percentage of cases the world over, is it not well to review our ideas concerning craniotomy, its indications and contraindications, when or when not justifiable on the living fetus? By so doing I believe many maternal lives may be either preserved or rendered happier by doing away with many preventable injuries and infections of the puerperal tract.

Let us agree to leave out of the discussion of this question all arguments against craniotomy of the living fetus based upon religious beliefs. If the obstetrician hold it to be a sin to sacrifice the life of the fetus for the sake of the mother under all circumstances the entire question, as far as he is concerned, is settled once and for all. Such a position is not open to argument and I for one would be the last to attempt to change his viewpoint for which I have the highest respect, so far as he individually is concerned. On the other hand it is only fair and right that those who happen to look at the question entirely from a different standpoint be accorded the same privilege.

Ruthless disregard for the rights of the fetus is gradually giving way to an appreciation of our duty to safeguard those rights in every possible way. Every new obstetric procedure before it be accepted, must not only be shown to be beneficial to the mother, but it also must show favorable results so far as the child is concerned. The greatest advances have been

made during the past ten or fifteen years in prenatal care of mother and child. It is absolutely necessary if we are to safeguard the interest of both, that the mother be seen frequently during pregnancy and especially early in labor in order that the obstetrician be possessed of all data essential to the welfare of mother and child. If the case be abnormal, the time of treatment must be selected with due regard for the safety of both mother and child. If, however, it becomes a choice between the life of the mother and that of her child, the obstetrician is bound to give the benefit of the doubt in the majority of cases to the mother, since she is of more value so far as her family and the state is concerned than is the child.

This, I believe is the position of most obstetricians and from this standpoint will be discussed the proposition of under what circumstances it is justifiable to sacrifice the living fetus by craniotomy.

The conditions under which craniotomy on the living child may not only be justifiable but clearly indicated can be stated as follows:

1. When the mother is septic.
2. When the child is feeble and not likely to live under any conditions.
3. When the fetus is a monster or so badly defective as to make its future existence problematic.
4. When from the necessities of the case the choice must be made between craniotomy and the major obstetric operations in unskilled hands.

1. *When the mother is septic.*

In spite of all that has been written upon the subject and in spite of the lessons to be learned by practical experience there seems to be very little appreciation of the high maternal mortality following major obstetric operations like abdominal Cesarean section and pubiotomy when the parturient tract is infected. So firmly is it fixed in the minds of the profession that it is wrong to perform craniotomy that after ineffectual efforts at delivery of the child by forceps, when the woman has undoubtedly been infected by repeated vaginal examinations applications and reapplications of the forceps, it is not uncommon to hear abdominal Cesarean section discussed as the next procedure to be attempted. Under such conditions the abdominal operation even if the uterus be removed, is little short of a crime, so high is the maternal mortality. The maternal mortality under these conditions after the classical Cesarean section in skilled hands is between 30 and 50 per

cent.; in unskilled hands it is almost certainly fatal to the mother. Many of the children born alive succumb a few days or weeks later so that the main object of the abdominal operation, the rescue of the child, the avoidance of killing the fetus is not accomplished. So great has been the maternal mortality under these conditions, intraperitoneal opening of the uterus when the latter is septic, that attempts are being made to modify the technic so as to open the septic canal extraperitoneally. This is the real explanation for the suprasymphyseal method of Cesarean section. The method was proposed in 1824 by Physick of Philadelphia. In 1870 Thomas suggested an inguinal incision and the exposure of the uterus by the extraperitoneal route. He and others performed the operation fourteen times with a 50 per cent. maternal mortality. The fetal mortality was 42 per cent.

Under more modern methods the various operations proposed by Frank, Sellheim, Doederlein and others give better results even in septic cases, but it must be remembered that even in the hands of experts the mortality for both mother and child after these procedures remains high (10 to 15 per cent.)

It must be kept clearly in mind that there are two classes of cases having to do with the question we are trying to settle. This has been referred to before but it will bear repeating. If the pregnant woman early in labor has been in the hands of a skilled obstetrician, in or outside of a hospital, only rarely will it be necessary to perforate the living child in order to save the mother's life. Long before the woman is exhausted by a prolonged labor, the proper obstetric procedure will be selected and executed, and while the fetal mortality from the nature of the case may be considerable, the maternal mortality will be low because sepsis has been avoided. The occasional craniotomy will be performed when certain selected procedures have failed with resulting weakening of both mother and child. Here it may be necessary in order to save the mother's life to remove the fetus, dead or alive.

It is an entirely different proposition when the parturient tract has been infected by unclean hands in misdirected attempts at extraction. In cases of contracted pelvis both Cesarean section and pubiotomy are contraindicated in the presence of sepsis. If forceps and version have failed or are contraindicated, when the decision must be made, the child whether living or dead should be perforated immediately and the labor quickly terminated. The prac-

titioner must bear in mind that manipulations from below are comparatively well borne, while infected peritoneum from suprapubic operations means a high mortality from peritonitis. One cannot reason from analogy that because the peritoneum is contaminated in gynecologic operations with no resulting peritonitis that the same result will be seen in puerperal cases. Long ago it was found that there are marked differences so far as their infective qualities are concerned between gonorrheal and puerperal pus. Gonorrheal pus tubes can be removed with safety from above. Puerperal pus tubes or ovarian abscesses removed by the abdominal route, no matter how carefully the peritoneal cavity may be walled off, always carry with them a comparatively high death rate from general peritonitis.

Hence in the presence of infection or probable infection there is only one course to pursue, if the best interests of the patient are to be considered. When, owing to a disproportion between the maternal pelvis and the fetus, the latter cannot be removed by applications of the forceps safely so far as the mother is concerned or if version be contraindicated because of a contracted uterus or high contraction ring and if further delay be dangerous to the mother, it is not only admissible, but it is strongly indicated to perforate and remove the fetus.

If the child cannot be delivered through the natural passages and the suprapubic route be contraindicated, it is decidedly unscientific and cowardly on the part of the obstetrician to delay removal until after the death of the child, in order to escape the odium of perforating the living child. It is as open to censure as the old custom of allowing the head to lie in the pelvis many hours before applying the forceps. Twenty-five or more years ago vesico and recto vaginal fistulae due to this inexcusable delay were common. Now, thanks to the teaching of better obstetrics, such lesions are comparatively rare.

Waiting for the child to die before resorting to craniotomy is distinctly dangerous to the mother, exposing her to the dangers of sepsis from resulting necrosis, rupture of the uterus from thinning of the lower uterine segment and of exhaustion from the protracted labor. Sentiment should be thrown aside and the child perforated and removed in the interests of the mother. Only on rare occasions will any objections be raised by the patient or family provided the true situation be set forth. If

craniotomy be refused, the only recourse is to attempt to crush the head without perforation sufficient to allow of extraction. Such a procedure is unscientific and unsatisfactory but it is preferable to operation from above or leaving the woman to die undelivered.

2. *When the child is feeble and not likely to live under any conditions.*

It must be admitted that it is extremely difficult to make a prognosis as to whether the unborn or newly born child will survive. Factors such as the position of the child, excessive abdominal fat or hydramnios often obscure the fetal heart sounds and may lead to false deductions. Slowing and acceleration of the fetal heart only partially tell the story. It is good obstetrics to assume that the child is of good strength and vitality and will live unless the physical signs, together with the other factors of the case, force us to an opposite conclusion. Under certain conditions the vitality of the child, even its life, is undoubtedly imperiled. If the fetal brain has been unduly compressed by high forceps in an endeavor to drag the head through a contracted pelvis, the chances of the survival of such a child are not good. The same may be said of protracted labor with an impacted head, brow presentations and face presentations with the chin posterior. Persistent occipitoposterior positions are sometimes in the same category. The diagnosis as regards the vitality of the child is even more apparent in arrested head after version. Here experience has shown that delivery can be delayed only a few minutes before attempts at resuscitation prove unavailing and the child will be stillborn.

In all these conditions the safety of the mother is of paramount importance. She should never be exposed to great additional risks for the sake of a fetus which may not long survive even if delivered alive.

Obviously this does not mean that every child judged to be feeble or dying will be subjected to craniotomy. The obstetrician is responsible for the safety of both mother and child and that both may be saved the fetus must be separated from its mother. He chooses the course which will do equal justice to both until such time as he must decide between the two. Then he is bound to favor the mother. In the large majority of cases the condition of the mother will not demand craniotomy on the living child although it may be found best to subject the dead child to perforation in order that the mother may be saved from unnecessary mutilation. At times it may be the height of folly

to drag the fetus through the contracted pelvis of a primiparous woman; to continue the extraction through the undilated soft parts after the death of the fetus without first reducing the latter's bulk, is certainly a grave error of judgment.

Again I can not refrain from commenting upon some of our inconsistencies. Craniotomy with its necessary sacrifice of fetal life fills us with horror, yet we have no such feeling over deliberately sacrificing the fetus in many instances when we use it for a uterine tampon to check the hemorrhage of a placenta previa. Not that I am not in hearty accord with such a practice. Version when possible is the treatment par excellence for placenta previa, but why accept the sacrifice so calmly in this instance and make such an outcry over it in the case of craniotomy. The answer may be that it does not mean certain fetal death in version for placenta previa, while such is the case in craniotomy. This only half answers the question since in practically one-half the cases there is no hope for the fetus. A more plausible explanation is that the nature of the killing has a great deal to do with the way the two deaths are regarded and leads us to the conclusion that opening of the head has much to do with the way the operation is regarded. Be that as it may, in some instances one method of sacrificing the fetus is just as justifiable and necessary as the other.

3. *When the fetus is a monster or so badly defective as to make its future existence problematic.*

Double monsters are rare but when present usually give rise to dystocia. The medical attendant will be called upon for the exercise of the greatest ingenuity to accomplish delivery under these circumstances. Yet fused fetuses have been born alive, and have lived in comparative happiness like the Siamese twins. Last summer I witnessed in Paris an operation to separate two fetuses joined together at the sacral region. I am unable to give the results of the operation but the children were healthy and their chances were good since they shared no organs in common. Hence the indications are plain in all cases of monsters or defectives such as fetuses with spina bifida, absence of certain portions of the abdominal wall, etc. Inasmuch as the extent of the defects can not be ascertained before birth such individuals should receive the same consideration as healthy children, provided there is no great amount of dystocia. In the latter case these defectives

should receive less consideration than normal fetuses and craniotomy should be more quickly decided upon. Hydrocephalus is the most common condition giving rise to dystocia. When the diagnosis is made and it is ascertained that delivery is impeded by a hydrocephalic fore or after coming head, craniotomy is distinctly indicated. If one has any compunction about craniotomizing these unfortunates it is usually perfectly possible to accomplish delivery after withdrawing the fluid by means of a trocar without injury to the brain. However, my experience with hydrocephalus developing subsequent to birth has not made me enthusiastic over efforts aimed at preservation of the lives of such unfortunates. The time may come when hydrocephalus can be cured surgically, but until that time I prefer to save the mother and family the agonies of witnessing the slow death of a hydrocephalus child by a deeper thrust of the perforator.

4. *When from the necessities of the case the choice must be made between craniotomy and the major obstetric operations in unskilled hands.*

This has been considered somewhat under previous headings, but it is of enough importance to be further elaborated. The maternal mortality will be high when either craniotomy or the major obstetric operations are performed by the unskilled. Uncomplicated Cesarean section is one of the simplest abdominal operations for the surgeon accustomed to abdominal work. When performed prior to or early in labor upon women who are not exhausted and not infected the maternal mortality should not be much above 2 per cent. and the fetal mortality from the operation itself should be nil. However, such percentages can only be obtained by rapid emptying of the uterus and accurate suturing of the uterine wound together with a well thought out technic for the remainder of the operation. In the hands of the unskilled operator Cesarean section will give no such results. Slow and hesitating work, especially if there be lack of asepsis will give a high maternal mortality quite a few children will perish.

But this is in elective Cesarean work and really has little to do with the choice between Cesarean section and other operations in the hands of the skilled or unskilled. Such choice comes in contracted pelvis where the woman is septic and must be delivered from above or below. In such cases the suprapubic operation in the hands of the skilled carries with it a very high mortality because of the exhaustion of the

mother and the chance of sepsis. When the practitioner has had little experience with abdominal surgery, prolonged and inaccurate work will take away practically the last chance from the woman.

The same is true, although not in such a marked degree, in the operation of pubiotomy. While the latter gives excellent results in clean cases and in unexhausted women with moderately contracted pelvis, the results, both maternal and fetal, are bad in the presence of sepsis and maternal and fetal exhaustion. However, I consider pubiotomy far preferable to Cesarean section in cases of contracted pelvis, with the conjugate vera between 7 and 9.5 centimeters, when forceps have been tried and have failed and there is no marked signs of sepsis. In other words pubiotomy because it is extra-peritoneal will give better results than the intra-peritoneal operation of Cesarean section.

Pubiotomy is no operation for the tyro since it requires special instruments and familiarity with operative work. Mistakes in judging the cases suitable for this operation may also result in too wide a separation of the severed pubic bone and a permanent maternal disability.

When the woman must be delivered it is far better for the practitioner with no especial training in surgery to perform craniotomy on the living or dead fetus. While the latter operation undoubtedly carries with it in the hands of the inexperienced some mortality beyond that explained by prior maternal sepsis and exhaustion, this mortality is infinitely lower than with the operations previously considered. Again the practitioner is not called upon to make accurate measurements of the pelvis prior to this operation. Only rarely will pelvis below two and a half centimeters be met with—pelvis where it is dangerous to the mother and sometimes impossible to extract the perforated head. Of far more importance than a knowledge of the exact pelvis measurements in a given case, is to know when to stop attempts at forceps delivery. Far better for all concerned that craniotomy be performed and the child be extracted before the condition of the mother becomes such that even extraction will prove of no avail.

As I close this paper I am fearful that I may be misunderstood and I have good reasons for such fear. I have been accused of advocating vaginal and abdominal Cesarean section for all kinds of impossible conditions yet a careful perusal of my contributions on those subjects will, I am sure, show that the limitations of these obstetric operations were carefully de-

fined. Yet, after all, what is the personal equation if one succeeds in the slightest degree in emphasizing an important principle and setting in motion a discussion from which good results may come.

FURTHER OBSERVATIONS OF A CASE OF MYELOGENOUS LEUKEMIA TREATED WITH BENZOLE AND X-RAY.

HARRY B. SCHMIDT, M.D.

(From the Department of Internal Medicine, University Hospital, Ann Arbor, Michigan.)

I wish to report the further progress of a patient, Mr. A. G. whose case was recently reported by me in the *Michigan State Medical Journal*. The following blood counts were made since this report:

11-24-'14	9000
12- 2-'14	85000
12-10-'14	68000 and 69% Hemoglb.
1- 4-'15	82000 and 60% Hemoglb.
Reds	
1-18-'15	4,440,000 13000 and 84% Hemoglb.
2- 1-'15	25000
2-15-'15	4,150,000 12800 and 75% Hemoglb.
3- 8-'15	21000
4- 3-'15	28700

Blood smears still show the formula for myelogenous leukemia. Most of the myelocytes are degenerates. The patient is feeling well and has been able to go about his work. He has no complaints whatever. Physical examination shows the patient well nourished and the spleen palpable three finger breadths below the costal margin. The liver is not palpable. Upon entrance to the Hospital the spleen extended two finger breadths beyond the median line to the right and the liver was palpable four finger breadths below the costal margin. He has had no benzole since September, 1914. X-Ray treatment has been given every two weeks with the exception of a few intermissions, since the benzole was stopped, the dose being a full erythema dose of a very hard ray over four points of entry.

Since this patient came under observation we have seen another patient, Mr. F. G. age 45, transferred from the surgical department. On entrance he had 3,380,000 red cells, 238,000 white cells and 45 per cent. hemoglobin. Differential count showed 28 per cent. neutrophilic myelocytes with a few eosinophiles, basophiles and a few nucleated reds. The patient was placed on benzole one gram three times a day,

January 25, 1915. This dose was gradually increased to two grams three times a day. On February 4, 1915 the white cells were 192,000 and hemoglobin 53 per cent. February 9, 1915 the leucocytes were 163,000 and on the 19th 172,000. The patient was discharged on the 12th of February with the advice to return every two weeks for observation. He failed to return, however, after February 19, and a letter from his wife states that he is in a very weak condition. He has not been out of bed for a number of weeks. The benzole has apparently been of no benefit to him.

DISCUSSION.

DR. JAMES G. VAN ZWALUWENBURG: I have already discussed a previous report of this case and have little to add. Possibly you may be interested in an incident that happened in the course of the treatment.

Dr. Schmidt's statement that we are treating this patient every two weeks is not quite correct. The plan is to give him a full erythema dose over four areas every two weeks, three being given over the spleen and one over the anterior aspect of the liver. To prevent any intoxication from the sudden liberation of the products of cell destruction these are given in two sittings at intervals of two or three days. As a matter of fact, if his white count is reasonably low, e. g. below 25,000, the treatment is deferred until it rises above this level. It is worthy of note that a reduction has always been noted promptly after the "ray."

When he first left the Hospital, he complained of the inconvenience of reporting twice in so short an interval, and begged that he receive all four exposures at a single sitting. Rather against my better judgment I agreed to make the trial, but warned him to call his local physician if he were ill, and to ask him to examine his urine. At the next sitting he reported that it had been all he could do to reach home, that he had been glad to get to bed and that the physician reported a large amount of albumin in the urine. This is not at all unusual after large doses. By tacit agreement we have returned to the original schedule.

I should like to warn against the assumption that all of this man's improvement is due to the irradiation. Leukemia naturally shows a series of exacerbations and remissions and it is not at all unlikely that he is in a remission now. What the X-Ray will do for him when an exacerbation comes remains to be seen.

Radiotherapy is not considered a cure for leukemia; ultimately the disease will prove fatal. Many radiologists apply the treatment to the spleen and to the long bones. I have not yet used the latter method holding it in reserve against the day when we shall need it more urgently.

DR. SCHMIDT: I have nothing further to state about this patient. We hope to keep him under observation indefinitely.

I would like to ask Dr. Van Zwaluwenburg about a tumor he treated and reported sometime ago. Was the diagnosis definitely a Hodgkin's or sarcoma

of the mediastinum, and is the patient doing well at present?

DR. VAN ZWALUWENBURG: I know of no way to tell. We do know that all of these diseases that are characterized by a hyperplasia of the lymphoid tissue such as leukemia, Hodgkin's, and even outspoken cases of sarcoma, are very amenable to X-Ray treatment. The fact that his condition improved is no evidence one way or the other. It is of course very possibly a Hodgkin's, although the clinical findings point to a "lymphosarcoma."

DR. HOWARD H. CUMMINGS: Relative to the remarks made by Dr. Van Zwaluwenburg I recently found a report of several cases of Hodgkin's disease where one or two involved glands were removed and the X-Ray used after the operation. Several of these patients have been apparently cured, five years having elapsed without recurrence.

SYPHILIS AS A COMPLICATION OF PREGNANCY.

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Of the various accidental complications of pregnancy syphilis is one of the most important both on account of its frequency as well as its results; and more so from the fetal than from the maternal standpoint. For although syphilis tends to run a more severe course in the presence of pregnancy, nevertheless it does not often actually endanger the life of the mother. But for the fetus it constitutes, next to criminal abortion, one of the most frequent causes of fetal death, (1) not only in utero, but in the early weeks of infant life, and, unlike most other accidental diseases of pregnancy, there tends to be a permanent infection of the child. Unfortunately sterility is not a characteristic of women infected with syphilis, for they are altogether too apt to conceive.

Diagnosis.—The history of a pregnant woman should include a careful questioning as to any previous abortions, miscarriages or premature labors; the stage of occurrence; cause if known; stillborn infants and their appearance at birth; also as to the health of the father of the child, and any symptoms in either parent suggestive of luetic infection, such as skin eruption, sore throat, falling out of hair or enlarged glands in the neck or groin. There may be obtained a history of the primary sore or ulcers or growths about the anogenital region. In some cases it is certainly advisable to question the patient in such a way as not to arouse suspicion. Sometimes inquiry regarding the health of any living children or the age at which other children died and their symptoms will furnish a clue.

In the examination the general type of the patient should be noted as to signs of hereditary or acquired lues, such as frontal bosses, saddle nose, Hutchinson teeth, scars about the angles of the mouth, sabertibiae or scapulae, with possible tender nodes, general adenopathy especially of the epitrochlears, posterior auricular, cervical and inguinal glands, and any evidence of old or recent skin eruption of a suspicious nature; also the pupillary reactions and the reflexes.

A Wassermann test is an important aid in diagnosing the disease, especially in the large number of cases in which the history and examination are unsatisfactory, for as is well known, syphilis succeeds much better in concealing its identity in women than in men. A positive reaction obtained by an experienced serologist is considered specific, with very few exceptions, but a negative reaction does not exclude the possibility of the disease being present, perhaps in a more latent form. In either case the reaction should be considered in conjunction with the history and results of examination.

Paternal Transmission.—The question as to whether there is a paternal transmission of syphilis has given rise to a great deal of controversy and, as yet, cannot be regarded as proved one way or the other, although the general belief is against it.

It has been shown by the research of Neisser and Finger (2) that lues can be transmitted to apes by inoculation with spermatic fluid, but these positive inoculations merely show that the seminal fluid as such, may be infectious and do not prove that the virus is found within the spermatozoan. Inasmuch as the spirochete of syphilis is three times as long as the head of the spermatozoan, the possibility seems unlikely, although there may be some intermediate form of the spirochete, of which we know nothing as yet, which would make transmission by the spermatozoan a possibility.

Furthermore it has been demonstrated that the majority of apparently healthy mothers of syphilitic infants have a positive reaction. Knopfmacher and Lehdorf (2) found that out of ninety-one apparently healthy mothers of luetic children, fifty-four reacted positive (59.3 per cent.); out of twenty-five mothers with evident syphilis, eighteen were positive (72 per cent.). Baiseh (2) found in seventy-two mothers of luetic children, sixty-three with a positive reaction, although only two-thirds of them showed evidences of the disease.

Even if the reaction of the mother's blood is negative at the time of birth of a syphilitic infant, it does not definitely prove the absence of lues. Spirochetes have been found in the placenta in spite of a negative reaction (3).

It has been suggested that possibly the positive reaction in such cases resulted from the passing over of antibodies from the placenta to the mother. But such a reaction would tend to disappear from the mother's blood in a short time whereas the positive reaction continues to be present at a time when such passively obtained antibodies would have long since disappeared.

Moreover a luetic infant at birth may show a negative reaction, which after several weeks becomes positive along with other manifestations of lues. But in the meantime a positive reaction may be present in the apparently healthy mother from the time of confinement, excluding an intrauterine transmission of the antibodies from the placenta to the mother.

Colles Law (1837) stated, "A new born infant with inherited syphilis, even though it may have symptoms in the mouth, never causes ulceration in the breasts which it sucks, if it be the mother, although continuing capable of infecting a strange women." For the above mentioned reasons, it is now generally believed that this law does not hold good, inasmuch as most of such apparently healthy mothers show a positive Wassermann, and are not immune, but in a latent stage of the disease. "The serum reaction speaks against the frequency of paternal transmission, but it does not exclude the possibility of its occurrence." (2).

Clinical Course.—The abortive influence of syphilis varies greatly according to the stage of the disease present at the time pregnancy occurs. In general if the mother is infected late in pregnancy the fetus will usually escape; if early in pregnancy it will usually be infected; if maternal infection occurs at the time of conception, the fetus is practically always infected.

The period of greatest danger for the fetus corresponds to the first three years of the infection, approximately the secondary stage; and of these three years the highest fetal mortality occurs during the first year of the disease.

This is well illustrated in Fournier's (4) statistics based on 239 pregnancies in syphilitic women. The fetal mortality occurring during the successive years as dated from the time of maternal infection was as follows: During the first year of maternal infection,

pregnancy resulted in eighty-eight fetal deaths; during the second year, thirty-four fetal deaths; during the third year, seventeen; the fourth year, seven; the fifth year, five; the sixth year, six; the seventh year, five; the eighth year, five; the ninth year, one; the tenth year, one; the eleventh year, two; the twelfth year, three; the eighteenth year, one; the twentieth year, one. In other words, 139 out of 176 or nearly four-fifths of the total number of fetal deaths occurred during the first three years of the infection and nearly one-half of the total, during the first year of the disease.

The same author gives statistics showing the high fetal mortality during the first year of the maternal infection. Out of ninety women becoming pregnant in the first year of the disease, fifty terminated by abortion, or premature delivery of stillborn infants; thirty-eight by birth of infants that died very soon after birth, and in only two cases did the children survive; mortality 97 per cent.

The interruption of pregnancy tends to occur at a later stage with each successive pregnancy until finally a child is born at full term, syphilitic and unable to survive. Later on an apparently healthy child may be born and survive. The older the infection, the more the attenuation and diminution of the abortive influence, although exceptionally, infection of the fetus may take place as long as twenty years after the maternal infection as in a case reported by Boas (5).

There is still another possibility, that of the mother herself, being a congenital syphilitic and transmitting the infection to the child, and there are a number of authentic cases of this kind on record.

Aside from an abortive influence, syphilis complicates pregnancy in other ways. To the strain of pregnancy is added the additional strain of syphilitic infection, each of these conditions being aggravated by the other, and anemia, gastrointestinal disturbances, headache and night bone pains may be noticeable. Sometimes there is a marked syphilitic fever with sweats which may simulate malaria very closely. Due to the normal increase of blood supply and congestion in the genital tract during pregnancy, the primary sore and the mucous lesions of the secondary stage are usually more marked and more obstinate to treatment. The presence of ulcerative, secondary infected lesions about the genitals is a possible source of infection of the tract higher up during pregnancy, labor or the puerperium. Abortion, misear-

riage and premature labor bring about greater risks to the mother on account of possible retained portions of placenta, hemorrhage and infection. Premature labors or miscarriages due to syphilis usually result in stillborn, macerated infants, and are usually not preceded by bleeding, whereas in miscarriages due to other causes the fetus is more often living at birth, and the birth is more commonly preceded or accompanied by moderate bleeding (4). It is said that 80 per cent. of macerated still-born infants are luetic. There may be cicatricial stenosis of the cervix resulting from chancre, which may seriously interfere with the normal dilatation. There is no apparent influence on the puerperium and the involution of the uterus is usually normal. There is no evidence that syphilis is a cause of fetal monstrosities and deformities. Holt, in fifty-six consecutive cases of congenital deformities, failed to get a single positive Wassermann (6).

Treatment.—The need of specific treatment in the interests of both the mother and the child is well shown by the statement of Marcus (7) based on 127 cases.

Untreated mothers give birth to 90.2 per cent. syphilitic children, mothers receiving treatment prior to pregnancy, 82.3 per cent.; but if treated during pregnancy, only 45.6 per cent. of the children are syphilitic. Heden (7) reports the results of salvarsan used alone, in comparison with results of salvarsan, combined with mercury. Whereas half of the children in the former case showed syphilis or a positive Wassermann at birth, none of the children in the second case showed either a positive Wassermann or clinical symptoms, illustrating very clearly the increased efficiency of the combination of both drugs in bettering the outlook for the child.

Intensive treatment with salvarsan and mercury is indicated if the pregnancy is not too far advanced, and if the kidneys are normal. but if late in pregnancy and especially if there is an existing nephritis, there is more danger of premature labor and inunctions or injections of mercury are more suitable.

Diagnosis of Congenital Syphilis.—This is based on the Wassermann, the history and examination of the parents, the clinical signs and symptoms in the child, and the examination of the placenta.

The Wassermann reaction in congenitally luetic infants has been of the greatest aid in diagnosing the presence of the infection, especially in the class of cases where the maternal infection is in the latent stage and the child at birth is more apt to be apparently healthy, and show none of the clinical evidences of the disease.

Lederman (8) on the basis of Wassermann tests in 650 infants with all possible non-syphilitic diseases concludes that with very few exceptions, the reaction is specific. However, in scarlatina, sepsis and pneumonia the blood may react positive, especially in the presence of high fever. Several of such cases are mentioned by him, in which a temporary positive Wassermann was found, but with no specific history or evidences of lues. He cautions against taking blood for the test during or shortly after a period of fever, and that a positive reaction under such conditions without other signs of syphilis should not be relied upon. Frambesia, relapsing fever, leprosy and malaria, although giving positive Wassermann would not be apt to enter into the diagnosis in such infants. However, in children who present the clinical signs and symptoms of congenital syphilis the reaction is usually strongly positive.

It is a matter of frequent observation that many congenital syphilitic infants appear to be healthy at birth and show no signs or symptoms of the disease, but several weeks or even several months later the reaction becomes positive along with the appearance of specific clinical symptoms and signs. The same author mentions the case of a girl born at full term February 28, 1913, who developed a severe disturbance of nutrition May 10, but showed no evidence of lues and had a negative Wassermann May 12. But on June 10, three and a half months after birth there were superficial eruptions behind the ears which changed in a few days to deep serpiginous ulcers. There was also coryza and maculopapular eruption. On June 17, the Wassermann was strongly positive and remained so in spite of salvarsan.

Hence, a negative Wassermann, even for several months after birth, gives no assurance that the children of syphilitic parents will remain healthy and he emphasizes the necessity of testing the blood of such infants from time to time

and not allowing them to be put to the breast of a healthy nurse.

Profeta's law states that children who show no signs or symptoms of syphilis, although born of luetic parents, are immune to syphilis. However, in view of the fact that the great majority of such children later on show a positive Wassermann and very often develop manifestations of syphilis, their immunity is only apparent and accounted for by their latent syphilis.

The history and examination of the parents furnishes important additional evidence of a possible syphilis in the child and has already been considered.

An early recognition of the signs and symptoms of congenital syphilis is of the greatest importance in order to give the child specific treatment at once, and to eliminate as quickly as possible the danger of infecting others. Briefly, these are as follows: undersize and underweight, scanty subcutaneous fat, wrinkled, pale, grayish skin, generalized maculopapular eruption, more marked in axilla, anogenital region and interdigital spaces and of a dusky red, coppery or violet color; vesiculobullous eruption on the palms and soles, loss of hair or nails; fissures at the angles of the mouth or between the toes or fingers; general adenopathy; coryza with "snuffles" and the presence of a hoarse cry. Spirochetes may be demonstrated in the secretion from the various lesions. Few or many of these manifestations may be present in any given case.

Autopsy and microscopic examination may show osteochondritis of the long bones and enlargement of the liver, spleen and to a less extent of the pancreas and lungs, with interstitial changes. Spirochetes may be demonstrated in the liver, and especially the adrenals by dark field examination, or by staining methods.

The placenta, if typically syphilitic is larger than normal, representing one quarter or more of the child's weight instead of one-sixth as normally. Instead of the usually dark red, it is paler and has a dull greasy look. The fissures separating the cotyledons are wider and deeper than usual. A minute fresh portion teased out in running water and examined under the low power, shows the villi to be thicker, blunter and more club-shaped and the blood vessels less readily seen or absent. Stained

specimens show short thick villi obliterating the interspaces, a denser and more cellular stroma and obliteration of blood vessels. Spirochetes have frequently been demonstrated in the placenta, but the various investigators have not been uniformly successful in their efforts.

In this clinic a routine Wassermann test is made on every patient admitted. In case of a positive reaction, suspicious history, symptoms, or signs, the patient is referred to the Department of Dermatology and Syphilology for a more rigid examination and for treatment if necessary. At the time of labor a specimen of blood is taken from the cord, to determine the Wassermann on the child and the placenta is sent to the Pathological Laboratory for a microscopic diagnosis.

In the last 422 obstetric cases, no exact figures can be quoted as to the actual frequency of syphilis, on account of the incompleteness of the various data. Seventeen cases were selected as being suitable for studying the relative value of the various means of diagnosis, on account of the completeness and reliability of the data. As nine of these patients received treatment during pregnancy, a negative Wassermann of the child, in these cases, was not considered as a point against the diagnosis of syphilis.

In regard to the microscopic appearance of the placenta, certain etiologic factors, such as lead poisoning, nephritis and chronic intoxications may produce a pathologic change such as fibrosis, sclerosis and obliterative changes in the vessels, which may suggest syphilis. Also these changes become more pronounced in a placenta which is overtime, but whenever they are very marked and the villi appear larger, more crowded and cellular, the pathologic picture is more typically syphilitic.

For convenience there may be distinguished (1) normal placentae (2) placentae showing fibrosis, sclerosis or obliterative changes to a slight degree (3) same changes, more marked, with more cellularity and crowding of villi; probably syphilitic (4) definite interstitial chorionitis; certainly syphilitic.

Table 1 shows the findings in these seventeen cases, as to history, examination, and Wassermann of the mother, and the Wassermann and examination of the child:

TABLE NO. 1.

OBST. NO.	HISTORY	EXAM.	WASSERMANN			CHILD				
			Mother	Child	Placenta	Weight	Luetic	Doubtful	Apparently Negative	
732t	+	+	+	—	(3)	3832		+		
748	+	+	+	+	(3)	3624	+			
762t	+	+	+	Not taken	(3)	2932		+		
809t	+	+	+	+	(4)	2265	+			Died 7th day. Autopsy "Congen. Lues."
827	+	—	—	+	(4)		+			Miscarriage 6th Mo. Still- born. Autopsy "Cong. Lues"
837	+	+	+	+	(3)	2118	+			Died on 1st day. Autopsy "Congenital Lues."
885t	+	+	+	—	(4)	3025		+		
890t	+	+	+	+	(3)	2488	+			
893t	—	+	+	—	(3)	3150		+		
900	—	+	Doubt- ful	—	(4)	2619		+		
923t	+	+	+	+	(4)	2939	+			Syphilitic eruption appeared 1 Mo. after birth.
938	—	—	+	+	(3)	3427	+			
943	—	—	+	—	(1)	3125			+	
1003	—	—	+	+	(3)	4100	+			Treated for Lues.
1043t	+	+	++++	—	(4)	2878		+		
1061	Doubt- ful	Doubt- ful	++++	+	(2)		+			Prem. Labor 7½ Mo. Lived ½ hr. Autopsy "Con. Lues."
1072	—	—	++++	—	(3)			+		Full term. Died ¼ hour. Autopsy not yet completed.

t—Treated during pregnancy.

ANALYSIS OF TABLE NO. 1.

1. Nine of the seventeen infants (53 per cent.) showed congenital lues clinically (9 cases) or at autopsy (4 cases). This number undoubtedly would have been larger had not nine of the seventeen mothers received treatment

during pregnancy. Also the children were under observation for only two to six weeks, and some of these may have developed clinical lues later on.

The following table shows the results of other examinations in these nine cases of syphilitic infants:

PLACENTA			MOTHERS' WASSERMANN			MOTHERS' HISTORY			MOTHERS' EXAMINATION		
Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.
3 33%	5 56%	1 11%	8 89%	0	1 11%	6 66%	1 11%	2 23%	5 56%	1 11%	3 33%

An analysis of these cases shows the mothers' Wassermann positive in 89 per cent., the history positive in 66 per cent., the examination positive in 56 per cent. and the placenta definitely syphilitic in 33 per cent.

2. The placenta was diagnosed microscopically as positively syphilitic in six cases out of seventeen, or 35 per cent.

In these cases the results of other examinations, were as follows:

CHILD			MOTHERS' WASSERMANN			MOTHERS' HISTORY			MOTHERS' EXAMINATION		
Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.
3 50%	3 50%	0	4 66⅔%	1 16⅔%	1 16⅔%	5 83⅓%	0	1 16⅓%	5 83⅓%	0	1 16⅔%

An analysis of these cases shows the history and examination positive in 83 per cent., the

mothers' Wassermann in 66 per cent., and the child definitely luetic in 50 per cent.

3. The placenta was diagnosed microscopically as possibly syphilitic in nine cases out of seventeen or 53 per cent.

Other examinations in these cases, showed the following results:

CHILD			MOTHERS' WASSERMANN			MOTHERS' HISTORY			MOTHERS' EXAMINATION		
Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.
5 55-5/9%	4 44-1/9%	0	9 100%	0	0	5 55-5/9%	0	4 44-4/9%	6 66⅔%	0	3 33⅓%

An analysis of these cases shows the Wassermann of the mother positive in 100 per cent., the examination positive in 66⅔ per cent., the history, and the child luetic in 55 per cent.

4. The Wassermann was positive in fifteen out of the seventeen cases, 88 per cent.; of the other two cases one was positive by one serologist and negative by another, but the mother had positive clinical findings, a syphilitic placenta,

and a child very suggestive of being luetic; the other case was negative and with no external evidences, although the child was stillborn at the seventh month, had a positive Wassermann and autopsy showed congenital lues. One and a half years previous, this same mother had given birth to a luetic stillborn child.

In these fifteen cases, other examinations were as follows:

CHILD			PLACENTA			HISTORY			EXAMINATION		
Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.
8 53⅓%	6 40%	1 6⅔%	4 26⅔%	9 60%	2 13⅓%	9 60%	1 6⅔%	5 33⅓%	10 66⅔%	1 6⅔%	4 26⅔%

An analysis of these cases shows the examination positive in 66 per cent., the history positive in 60 per cent., the child in 53 per cent., and the placenta in 26 per cent.

5. The examination shows evidences of lues in eleven out of seventeen cases, or 65 per cent.

The results of other examinations in these eleven cases were as follows:

CHILD			PLACENTA			MOTHERS' WASSERMANN			MOTHERS' HISTORY		
Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.
5 45%	6 55%	0	5 45%	6 55%	0	10 91%	1 9%	0	9 82%	0	2 18%

Analysis of these cases shows the mothers' Wassermann positive in 91 per cent., the history in 82 per cent., and the child and the placenta each 45 per cent.

6. The history pointed to luetic infection in ten out of seventeen cases, 58 per cent.

The results of other examinations in these ten cases were as follows:

CHILD			PLACENTA			MOTHERS' WASSERMANN			EXAMINATION		
Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.	Pos.	Doubtful	Neg.
6 60%	4 40%	0	5 50%	5 50%	0	9 90%	0	1 10%	9 90%	0	1 10%

An analysis of these case shows the mothers' Wassermann was positive in 90 per cent., the examination in 90 per cent., the child luetic in 60 per cent. and the placenta postively luetic in 50 per cent.

In only two cases out of seventeen (or 11 per

cent.) were all findings definitely luetic.
In addition to the above seventeen selected cases there were ten cases, not referred and hence with no special history or examination for syphilis but which had positively syphilitic placentae.

TABLE NO. 2.

OBST. NO.	HISTOR	EXAM.	WASSERMANN			CHILD				
			Mother	Child	Placenta	Weight	Luetic	Doubtful	Apparently Negative	
790			—	+	(4)		+			Prem. 7½ Mo. Stillborn. Autopsy "Cong. Lues."
908			+	—	(4)	3393		+		
939			—	Not taken	(4)	3427		+		
981			Not taken	—	(4)	970		+		Prem. 6 Mo. Stillborn.
881			Not taken	Not taken	(4)			+		Prem. 6 Mo. Stillborn.
864			Not taken	—	(4)	3198		+		
883			—	—	(4)	3438		+		
895			—	—	(4)	3744		+		
960			—	—	(4)	3766		+		
719			Not taken	Not taken	(4)	2930		+		

An analysis of these cases shows only one case of congenital lues but inasmuch as two of the cases classed as doubtful, were stillborn at the sixth month, the actual number was probably three, leaving 60 per cent. apparently negative. In four of the mothers no Wassermann was taken but in the remaining six, it was negative in 83⅓ per cent.

In comparing these figures with those of the six cases in Table 1, in which the placentae were positively syphilitic, there would seem to be some doubt as to the diagnosis, in view of the greater number of apparently negative infants and the high percentage of mothers showing negative Wassermanns. Also none of the mothers received treatment and as the majority of the patients were very young women and presumably in the early years of infection, there should have been a more marked effect on the infants.

Although the number of cases considered is too small to permit of definite conclusions, the results would seem to show that the Wassermann reaction is one of the most valuable of the various means of diagnosis, and that most of the cases diagnosed from the placenta as possibly luetic, are luetic clinically; (2) that it is important to consider all the methods of diagnosis upon any one finding.

I wish to express my thanks to Dr. Udo J. Wile and Dr. C. V. Weller for many valuable suggestions.

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DISCUSSION.

DR. UDO J. WILE: Dr. Bartholomew has brought up a very interesting and profitable subject for discussion. The subject of syphilis in its relation to pregnancy and pregnancy as a complication of a syphilitic infection has received a very scant interest in literature. The results that Dr. Bartholomew has given us this evening show well the value of the Wassermann reaction on the one hand and yet have demonstrated its limitations admirably, since many of the cases reported by him have been serologically normal and pathologically syphilitic. Perhaps one of the most interesting questions suggested by the paper is that of the possibility of paternal inheritance of syphilis. Before Von Wassermann applied the hemolytic reaction to the fixation of the complement, syphilis was conceded to be both paternal and maternal as far as its inheritance was concerned. Thus it was thought that if the mother was clinically nonsyphilitic and gave birth to a syphilitic child, the syphilis came from the father. It seems now rather well established that the mother of a syphilitic child is invariably herself syphilitic. In other words, inheritance is maternal. Of late there has

been an attempt by some authors to re-establish the doctrine of paternal inheritance. In other words, notwithstanding the mother herself may be syphilitic, it is argued that the ovum is infected from the spermatozoa. This theory, however, still remains to be established before it can be accepted as true.

The second point of interest which suggests itself in the discussion, is the nomenclature. I think the time has come when we must definitely drop the terms heredo syphilis and congenital syphilis. Most of us, I think, use the terms indiscriminately without reference to the clinical pictures. Permit me to call to your attention the fact that children may be syphilitic in a number of different ways. First, syphilis may be conceptional. The ovum being infected at or shortly after its fertilization. Such ova, or products of conception are very likely to be expelled early in the course of pregnancy. Next: The mother may be infected with syphilis late in the course of her pregnancy, in which case the child is very apt to be born well and to develop syphilis after birth. Such cases are manifestly quite like those of acquired syphilis. Thirdly: A mother with an old syphilis may carry her child to term, apparently healthy, be delivered of it, and the child may be infected at or during the time of labor. Such cases are also not in any sense hereditary cases. They are not, strictly speaking, intrauterine infections. I think, therefore, that we should speak rather of intrauterine or conceptional syphilis, and distinguish clearly those children which are born healthy and develop syphilis after birth and classify them as cases of acquired syphilis.

It is not at all impossible that some of the cases, in which we are dealing with apparently healthy women, in whom the Wassermann reaction is negative, but in whom placental or fetal syphilis is demonstrated, are cases in which the mother herself is suffering from tardive hereditary syphilis. It is a well known fact that heredo-syphilitic individuals may remain in perfect health until critical periods, such as pubescence or pregnancy, at which time they may develop tardive manifestations of the disease. During the last two months we have had such an individual, an apparently healthy woman who developed an interstitial keratitis and other symptoms of heredo syphilis shortly after the birth of her child. It is interesting to note that the child was apparently healthy, well developed and indeed a beautiful infant with an absolutely negative Wassermann reaction. Syphilis of the second generation, however, is very apt to manifest itself in degenerative changes rather than in manifest syphilids. Such changes are particularly apt to develop in the nervous system.

A word in conclusion in regard to treatment. I do not believe that there is any possibility of materially influencing unborn infants which are conceptionally syphilitic. Such embryos are riddled with spirochetes from the outset. It is true that treatment directed to the mothers results frequently in carrying pregnancy to term and in the expulsion of a living child. I am not prepared, however, to say that it would not be better if such children were expelled dead. The cases, however, in which the mother has carried a healthy child almost to term and then herself becomes syphilitic, are ideal cases for treatment. In such instances

it is perfectly possible for the mother to be delivered of a perfectly healthy child. The cases of healthy children which are infected at the time of birth have the same prognosis with allowance for the tender age, as in other acquired syphilitic infections.

I wish again to express my appreciation of Dr. Bartholomew's valuable paper.

DR. F. M. LOOMIS: As a matter of public record I want to emphasize the excessive precautions, in the matter of syphilis, taken at the Maternity Ward of this Hospital, for the protection of the mother, child and of ourselves. When the mother enters the Hospital she is examined in the clinic from head to foot, with syphilis always in mind. Blood for the Wassermann is taken at that time. When there is any doubt about the examination or about the Wassermann the mother is referred to Dr. Wile's department for further examination and if there seem to be any probability of syphilis, she is at once put under treatment. At the time of delivery blood is taken from the cord to determine the Wassermann on the child. The child itself is carefully examined by ourselves, and if there is any question about it the child also is referred to Dr. Wile's department. Finally, the placenta is sent to Dr. Warthin for microscopic examination. We feel that it must be an unusually elusive spirochete which can escape seven distinct examinations by four different departments. I am emphasizing this especially as it has a direct bearing upon that portion of the public which stands eagerly ready to adopt such children as are recommended. These precautions are taken so that our recommendation may carry a great deal of weight.

DR. BARTHOLOMEW: In view of the considerable number of patients whose placentae show positive evidence of syphilis but in whom we do not recognize any signs clinically and have no positive Wassermann in the mother or child, it would be interesting to know in how many of these cases spirochetes could be demonstrated in the placentae. In the near future we hope that some work along this line may be done.

CASE OF CIRROID ANEURISM.

H. M. MALEJAN, M.D.

(From the Surgical Clinic, University Hospital, Ann Arbor, Michigan.)

The patient, R. W., is seven years old, comes to the Hospital for a tumor of the scalp situated over the right occipital region.

Family History.—Father living and well. Mother living and well. One sister, five years old, healthy. No family diseases, no hemophilia.

Previous History.—Chicken pox, pneumonia twice, circumcised when three years old. Otherwise healthy.

Present Trouble.—The tumor was present at birth. The father says labor was normal and no instruments were used. He thinks the tumor was a little larger than a silver dollar at birth,

and was flatter than it is now. The tumor has enlarged gradually and has become more bulging during the last four years. The father has felt pulsations of the tumor since bulging was noticed. Pain has never been complained of. About ten days ago the mother noticed that the most prominent part of the tumor was inflamed. This area was about the size of a pea and is now about the size of a hazel nut. Since this began a slight burning sensation has been complained of.

Examination shows a mass in the occipital region about the size of a small hen's egg and covered with hair. There is a reddened area about the size of a ten cent piece. The whole mass is cystic. A blowing systolic murmur can be heard over the tumor, the intensity of which varies in different regions. This murmur can be heard down to where the post occipital artery branches off from the external carotid. Murmurs are to be heard over the precordium. The mass is not sensitive to pressure. A thrill is felt posterior to the mastoid process. By pressure over the postoccipital artery back of the mastoid process, the tumor can be greatly diminished in size. The underlying bone seems a little irregular but there is no discernible difference between it and the bone beyond the border of the tumor mass. The patient was operated upon by Dr. Darling under ether anesthesia, April 1, 1915. An incision was made parallel with the sternocleidomastoid muscle just below the angle of the jaw. The sternocleidomastoid muscle was pulled to one side and the common carotid, together with its

branches was exposed. The external carotid was then ligated. Following the ligation of the external carotid with a silk ligature it was noted that the pulsation of the tumor ceased. A circular incision was then made around the growth, and the bloodvessels were ligated with continuous catgut sutures. The scalp was closed with silk worm gut sutures. There was considerable hemorrhage but the patient reacted well.

Examination of the blood and urine was negative.

Pathologic Diagnosis.—Hemangioma. Lymph gland: marked lymphoid hyperplasia and chronic inflammation.

DISCUSSION.

DR. C. G. DARLING: This case is not so different from other hemangiomata except for its location and the very marked arterial blood supply to the tumor. The main blood supply was through the occipital artery, and could be felt very clearly back of the mastoid where it passed back to the posterior part of the head. By making pressure on this part of the head the blood supply to the tumor could be very well controlled. There were, however, many long vessels which made it desirable to ligate the external carotid artery in order to control hemorrhage. This was done and even after this ligation there was very profuse hemorrhage because the veins were very large. We employed the same method of controlling the hemorrhage here as we do for thyroid operations. We had to lock stitch and tie the large veins and it will require another operation to obliterate all of these veins. At the time it could not be determined that these veins had not been obliterated. While this will not return again as a pulsating tumor it is well to remove them by ligation.

Freckleless.—Freckleless, J. E. Barry, Paris, Texas, was sold for the removal of freckles, sunburn, tan, etc. It was found to be a petrolatum ointment of bismuth subnitrate and ammoniated mercury. Freckleless was declared misbranded under the Food and Drugs Act because it was not harmless as claimed and because it was not a skin food, as claimed (*Jour. A.M.A.*, April 17, 1915, p. 1346).

Veracolate.—The Council on Pharmacy and Chemistry reports that "Veracolate (plain)" (The Marcy Co., Boston, Mass.) is semisecret in composition unscientific in combination and exploited under unwarranted claims. It reports that the same criticisms apply to "Veracolate with Pepsin and Pancreatin" and "Veracolate with Iron Quinine and Strychnine." For "Veracolate (plain)" the following non-quantitative formula is given "A compound containing the bile acids, sodium glycocholate, sodium taurocholate with cascara sagrada and phenolphthalein." "Veracolate with Pepsin and Pancreatin" is said to contain, in

addition to the indefinite "Veracolate," the two mutually incompatible ferments, pepsin and pancreatin, and oil of peppermint. The complexity of "Veracolate with Iron, Quinine and Strychnine" has increased so that this unscientific mixture is claimed to contain seven constituents. These products are discreditable to the medical and pharmaceutical profession alike and their use is against the public good (*Jour. A.M.A.*, April 24, 1915, p. 1440).

The Converse Treatment.—This is a Columbus, Ohio epilepsy "cure." An examination in the Y. M. C. A. Chemical Laboratory showed that each 100 c. c. contained 7.3 gm. ammonium bromide, 5 gm. calcium bromide and 8.7 gm. potassium bromide, the bromide content being equivalent to 14.5 gm. potassium bromide per fluidram (one teaspoonful). Despite this bromide content the exploiters have in the past stated the epilepsy cures containing bromides "tend to aggravate the trouble in the long run" (*Jour. A.M.A.*, April 24, 1915, p. 1441).

The Journal

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June

Editorials

OFFICIAL CALL.

The Fiftieth Annual Meeting of the Michigan State Medical Society will be held in Grand Rapids on August 31, September 1 and 2, 1915.

The Council will meet in regular session at 8:00 p. m. on August 31 and at noon on the succeeding days of the session.

The House of Delegates will meet in its first session September 1, at 8:00 a. m.

The County Secretaries Association will meet at 3:00 p. m. on August 31.

The several bodies and scientific sections of the Society will have their meeting places in the Fountain Street Baptist church and its connecting Guild House.

REUBEN PETERSON, President.

W. T. DODGE, Chairman of The Council.

C. B. FULKERSON, President County Secretaries Association.

FIFTIETH ANNUAL MEETING.

As determined at the annual meeting held in Lansing last year, the Fiftieth Annual Meeting of the State Society will be held in Grand Rapids on August 31 and September 1 and 2.

The Kent County Medical Society, as host of this meeting, realizes that the responsibility rests upon them to not only provide ample accommodations for the several sessions of the

Society but also that the success of the meeting rests largely upon their shoulders. To meet up to this responsibility there have been appointed several committees with a combined membership of sixty-eight, who are actively engaged in executing their plans and to carry them to a satisfactory termination. It may be stated that as far as the local society is concerned nothing will be left undone to make this a most profitable as well as a pleasant event.

There then remains but one thing that will be essential to the full realization of our expectations and that is a large attendance. This meeting being the Fiftieth Anniversary of the Society in itself merits the presence of a majority of our combined membership. That should be a sufficient inducement. To this there may be added the assurance that the sectional work will surpass in value and educational features all previous sessions. Last, but not least, the entertainment features that are planned will be enjoyable affairs and are calculated to meet the inclinations of all attendants.

We urgently recommend that you plan your work so that you will not be compelled to forego attendance. We are desirous of having this Fiftieth Anniversary witness the largest gathering of the state medical fraternity ever assembled. Plan to attend, keep talking about it and induce your fellow to come with you. A special invitation is extended to the wives of our members. Their comfort and amusement will be well provided for. Kent county bids you welcome and awaits your coming.

TUBERCULOSIS DAY.

While it is true that the crusade against Tuberculosis owed its origin to physicians acting as pioneers in preventive medicine, it is equally certain that the public at large has recently fulfilled to a large extent its share of obligation with regard to this matter. Public funds have been and are being devoted to the erection and maintenance of Sanitorias for the afflicted and the State Legislature has recently appropriated the sum of \$100,000 to be used by the State Board of Health in a survey of this disease as it exists in Michigan. In view of these facts it would seem that the members of the State Medical Society can furnish most valuable assistance in locating infected individuals at a time at which their disease is still amenable to treatment.

The Tuberculosis Committee of your State Society has decided to set aside a special day

which shall be known as **Tuberculosis Day**, on which it is hoped that every member of the Society will devote his time and service without recompense to the physical examination of such individuals as present themselves before him.

The day will be well advertised through the columns of the *Daily Press* and persons afflicted with chronic cough or with a family history of Tuberculosis as well as those who have ever suffered from pleurisy or pulmonary hemorrhage will be especially urged to avail themselves of this opportunity.

No State Society has as yet undertaken this work. Let the physicians of Michigan take the initiative. A Tuberculosis number of the *Journal* will be published in July in which more details will be given. Every member of the Society should become a booster for Tuberculosis Day.

INSANITY IN MICHIGAN.

The "Report of the Commissioners to Investigate the Extent of Feeble-mindedness, Epilepsy and Insanity and Other Conditions of Mental Defectiveness in Michigan" has just been received and furnishes us a great deal of valuable and interesting information.

The first question which naturally arises in one's mind relates to the frequency of insanity among us, and its rate of increase.

The Commissioners' report tells us that it is impossible to accurately estimate the amount of insanity among any people, and if we but stop and consider the matter carefully it becomes self-evident.

The boundary line between sanity and insanity is more or less arbitrary, and there are many insane persons who never are adjudged as such.

If we glance back into history we can find innumerable examples of men who have become famous—one might say immortal—yet who exhibited such a mental twist that it is doubtful if they could pass an average test for sanity. Among these is John Bunyan, whose imaginations and visions caused him to be called "crazy" by his townspeople. Dr. Samuel Johnson's case is too well known, through Boswell, to require further mention. Mohammed had visions and hallucinations and epileptiform fits and went into trances. Socrates danced about in the street and on one occasion stood in a trance in the camp of Posideon from the dawn of one day to midday of the next. Martin

Luther threw his inkpot at the devil more than once—and other examples could be cited without end.

It is in fact difficult to define "insanity," let alone to determine conclusively whether or not a person is mentally sound. One of the most satisfactory definitions of the term insanity, is that of Dr. Peterson. While it is not all that one might wish, it will stand the acid test of the hypercritical cross examiner in a legal "set-to." He says that "insanity is a manifestation in language or conduct of disease or defect of the brain."

Many insane persons are kept at home either from preference or because of prejudice against insane asylums. There are others who have been discharged as cured but who relapse. In fact—unless cases are severe—and unless domestic conditions are such that they cannot be cared for at home, comparatively few cases come voluntarily to the state institutions. A considerable number refuses to admit the presence of insanity among them solely on account of family pride. All in all the number of insane persons in institutions, both public and private, does not indicate accurately the amount of insanity among us. The number of insane persons thus cared for in this state amounts to one person in every 370 of population. It is difficult to make comparisons with other states, unless they have equal facilities for the care of their insane, since states which are unequipped to look after their aliens would manifestly care for but a very few.

In Massachusetts one person in about every 300 is taken care of, and in New York one in every 320 is in a public institution. Ohio and Illinois compare with Michigan but Indiana cares for only one in every 600.

In all there were last year 7,700 patients in the institutions for the insane in this state. How many more were taken care of at home or were running loose, either without care or unrecognized, it is impossible even to estimate.

Nor does this increase in the number cared for in institutions each year, indicate with even approximate accuracy the increase of insanity in the community.

As our institutions become more efficient and the public becomes more familiar with them the number of inmates increases. This is especially noticeable in those counties where the state institutions are located. These counties furnish a much larger proportion of inmates than counties where the people in general are less familiar with them. In other words in

counties where people know the institution and appreciate its advantages they are more willing to give up their afflicted members, than those who are farther away from the "insane asylum" and know it only vaguely and mysteriously. Education is doing much to cause people to surrender their mentally afflicted to the care of these establishments.

Another feature which makes for an increase in the number of insane cared for by our public and private institutions, is our more complex manner of living, as well as the increased strain of life itself, and our more elaborate means for social intercourse. This is noticed in the comparatively small number of patients which comes from the really rural localities. The largest percentage comes from the smaller towns of from two to five thousand inhabitants. Here insane persons are harder to handle and cause more embarrassment than in the larger towns or in the country.

Readers of the lay press readily get the idea that insanity is increasing among us at a terrible rate. Statistics likewise show an enormous percentage increase in insanity. For example, in 1901 only 4.5 insane persons were admitted to the state institutions per year, but in 1910 it was 5.9 per 10,000. While in the last decade the population increased 16 per cent., the number of insane admitted increased over 50 per cent. If one followed statistics alone he would soon be convinced that there was no hope for the future. As a matter of fact there has probably been a considerable amount of relative increase, though much less than these figures would indicate.

Another factor which must be reckoned with, as increasing the relative number of insane, is that since the state has begun to care properly for them, they live longer under institutional treatment and so add to the sum total of the insane and its increase and apparent prevalence. The two great factors which influence the amount of insanity among a people are a general change in the type of population and a radical change in the mode and manners of life. There is no doubt but that with the great increase in the foreign element of our population we are accumulating a less resistant and a more unstable mental type, more subject to insanity than our native population. Part of this is due to the stratum from which they come, the very low level both from the mental and from the nutritional standpoints. Then they come into a strange country, which must be trying for any foreigner not speaking the lan-

guage and unfamiliar with our customs and our manner of living, where climatic conditions are strange and where they must become acclimated. There is always a heavy strain incident to adapting one's self to a totally new and strange climate.

No one will deny that as a people we Americans have changed much in the last twenty-five years. Life is more strenuous, the pace faster. We are more neurotic. We tittle more, and with increased facilities of communication we have increased facilities for the spread of syphilis. All these tend to an increase in mental disease. But few of us stop to think that while these conditions exist in increased amount the law of the survival of the fittest is bearing down on them in heavier measure. The drunkard's family comes to grief, they succumb more readily to disease, are less well fed and nourished and are not so numerous. The tendency is for them to die out. The family of the syphilitic—if he has any—has no resistance and many of the survivors are sterile, and so nature balances the ledger in some way or other.

The factors which influence an increase in insanity are numerous and not very well defined. These etiological factors in insanity vary according to many diverse conditions, as climate, race, manner of living, prevalent diseases, etc. For instance—the most prolific source of insanity in Egypt is pellagra; and insanity there from this cause is markedly on the increase. In Michigan this disease plays no part whatever.

Sex plays a considerable role, if one considers the number of men and women adjudged to be lunatics each year. There are more men admitted than women, though whether this is because people are less willing to send their women away than they are their men, is not clear. Men are certainly more difficult to manage than women in the private home. Again men are more liable to mental disease arising from drink and from syphilis than women.

Race is an important etiological factor in the production of insanity which is inherent and persisting. In comparing the rate of admission of the insane in the native and in the foreign-born population, we see that the ratio per 10,000 is 5.4 native and 8.9 foreign born. Among foreigners, the Russians and Poles lead with a ratio of 19.2 per 10,000. As a rule, then, these localities which have a heavy foreign population furnish a higher percentage of insane to our institutions.

The relationship of density of population is

seen only in certain kinds of insanity. The cities furnish a high percentage of those cases due to syphilis, to alcohol and to drugs. Otherwise the density of population does not play a predominating role.

The age at which the majority of patients are admitted is between 30 and 40 years. Few come under the age of 15, and the number is small after 70.

Families will not give up their children, especially as they are not, in their earlier years, difficult to care for in the home.

The influence of alcohol and syphilis is rather marked; 8.4 per cent. of those admitted in 1913-14 owed their derangement to alcohol directly, and 9 per cent. to its use indirectly. Syphilis was the cause of insanity in 17.5 per cent. of all of the men admitted and of 6 per cent. of the women, or a general average of 12.9 per cent. of all of the patients admitted, while 21.6 per cent. of all the insane gave a positive Wassermann reaction.

Just here it might be remarked that at the close of the civil war insanity was almost unknown among the negro. Later, when through freedom he got access to alcohol and contracted syphilis, insanity increased amazingly.

To be added to this is also the fact that life became more strenuous and he was no longer looked after, cared for, protected physically, morally, and mentally, as had always been done previously.

The most important factor in the production of insanity in general is heredity, and 65.4 per cent. of the insane were shown to have an hereditary taint among their ancestors such as alcoholism, paralysis, psychoses, or various forms of insanity and nervous disease, and 58.3 per cent. was in direct line. Insanity in ancestors was demonstrated in 58.7 per cent. of the cases and in 23.4 per cent. of cases one parent was insane.

It is interesting to learn that the cost to the public for the care of these shipwrecks from 1905 to 1914 was \$12,327,259.83, and that the cost, per capita, to the people of Michigan has increased from 37.7 cents in 1905 to 45.2 cents in 1914.

Could alcohol and syphilis be abolished we would immediately cut down our expenditures along this line alone at least 25 per cent., not to mention the indirect beneficial results which are beyond the knowledge of any man.

WESLEY TAYLOR,
1541 David Whitney Bldg.
Detroit, Mich.

Editorial Comments

Too many superintendents have the notion that medical men who are active and persistent, and who want things, are nuisances. It is common knowledge that a hospital is, after all, just about the caliber of its medical men, so far as its medical work is concerned. If these men know what good practice is, they are remiss in their duty to their patients and to their hospital if they do not insist on having it. That hospital is best whose medical men are forever fighting for better things and for better ways of doing things; encourage them to keep pushing. *The Modern Hospital*.

The Harrison law, in effect March 1st, required physicians to register and pay a registration fee for the remainder of the government official year. This year ends June 30th. It is therefore necessary to renew your license on or before July 1st. Do not wait till the last day. We suggest that you remit to the Collector Internal Revenue of your district during the first week of June.

The Annual Meeting of the American Medical Association will be held in San Francisco, June 21-25. This promises to be a most interesting meeting and also affords the opportunity for a pleasant outing. A goodly attendance from Michigan is desired. Do not fail to ask us for any information or assistance you may desire in arranging the details of your journey.

Physician's certificates for policy holders of health and accident insurance are examples of imposition on the profession. The company is utilizing the physician as their investigator and through him are obtaining facts which are not within the province of the physician to ascertain. The certificate should consist of nothing more than a statement of the nature and extent of the injury, the treatment administered, the present conditions of the injured and an estimate of the probable length of the disability. To go further than this and ask the physician to make a physical examination of the patient to determine past illness or accidents as well as hereditary or congenital defects, the condition of his home life, his habits, etc., etc., as many such insurance companies are attempting to do, is requiring a physician to furnish them information gratuitously. If this information is important they should require it to be secured by paid investigators or agents. It is not right

to thus impose upon the physician. We suggest that no attention be paid to these questions when filling out these blanks. Do not permit yourself to be imposed upon unless you are paid for your time in securing and imparting such information.

It is a startling statement recently made by Prof. Irving Fisher of Yale University, who is chairman of the reference hygiene board of the Life Extension institute: Of 2,000 New York bank clerks subject to physical examination only 3 per cent. were found to be free from physical impairment or dangerous habits; although their average age is only 33 years, 13 per cent. of these young men and women had hardening of the arteries, 5 per cent. had organic heart disease, and 28 per cent. had kidney disease. The institute is endeavoring to raise the averages of human life by education along the lines of systematic periodical physical examinations, by which the individual may find his weak spots and by dieting, physical exercise, medical treatment or other forms of personal hygiene overcome these handicaps.

This system was adopted at the Mudlavia Sanatorium at Kramer, Indiana, several years ago, where its efficiency, both in education and results, has been clearly established. They take the logical stand that a man's annual physical inventory is of much more importance than an annual inventory of his commercial assets, chiefly because the success of his business depends upon his health; that while an examination is necessary to intelligently treat disease, it gives the patient information that he should know, that he may himself assist in regaining health and be able to keep his physical condition normal after it has reached that point; that it affords absolute protection from contagious diseases, which every well-guarded sanatorium does not accept and which might be imposed upon it but for this examination. Making this the basis of the treatment, Mudlavia has not only been successful in its own work but it has done much to educate the laity to the value of this modern essential.

The Alumni Clinic week and graduation program of the Detroit College of Medicine and Surgery will be found under News Notes. Every indication points to another successful clinic.

The reputation of these medical and surgical demonstrations warrant a goodly attendance. Those devoting the required time will find themselves well repaid and have the assurance that their time will be profitably occupied during the entire session.

The plan of our Anti-Tuberculosis Committee to establish a Tuberculosis Day, as outlined on our editorial page, warrants every physician's hearty co-operation. Such a movement will accomplish a fairly comprehensive survey of the state and the revealing of the prevalence of tuberculosis in Michigan. It will also be the means of discovering incipient cases and bring about their receiving proper instruction so as to aid them to arrest the progress of the disease if not entirely cure it. Your support is solicited by the committee.

It is becoming recognized among the members of the medical profession that semi-invalids are usually given too much time for introspection and that if useful, interesting occupation is provided, their symptoms really become less acute.

In line with this healthful theory, the Battle Creek Sanitarium has instituted an Occupational School in which many of the patients have already interested themselves to their health betterment.

Many useful branches are taught in this school including weaving, basketry, stenciling, clay-modeling and others.

The efficacy of the project, especially in quieting nervous patients, has been clearly demonstrated.

The Council of Pharmacy of the A.M.A. has placed its stamp of approval on AbilenA Water, and of the entire list of cathartic waters, AbilenA is the only one that has been accorded such recognition and approval. The AbilenA Company will send upon application a quantity of this Water for home or clinical trial.

THE BAKING-POWDER PROBLEM

For a number of years there has been much discussion with regard to the effects of baking powders on the health. While minor objections have been urged against all baking powders, the

principal charge of unwholesomeness has been made against baking powders containing alum. This objection is based primarily on the injurious effects of large quantities of aluminum salts. To this objection the answer has been made that the process of decomposition which liberates the leavening gas when alum baking powder is used, produces an oxid of aluminum which is insoluble, and hence not injurious. For the facts in this matter to be fully understood, it must be remembered that the so-called alum now used in baking powder is not the alum used in medicine, being a sodium alum (sodium aluminum sulphate) instead of the official potassium salt. This point is held by some to be important in view of the effects of potassium salts on the system. Cream of tartar is a potassium salt, being potassium acid tartrate.

In the discussion of the baking-powder question, it must be remembered that the practical application of the facts concerns only small amounts of these salts and contemplates an occasional and not a constant use. Few people habitually consume breads made from baking powder, hence the amount of potassium introduced into the system by baking powder is unlikely to be of serious moment as regards health. Potassium salts are frequently taken as constituents of vegetable food, and yet there is no evidence that they disturb metabolism in any way. The question whether alum used in this way is injurious has been settled by the investigations of the Referee Board of Scientific Experts appointed by President Roosevelt, and its decision may be considered as coming from the court of highest authority. The investigation of this board covered a period of several years and was the most extensive single investigation ever conducted as to the healthfulness of alum baking powders. The distinguished character and personnel of the board itself lends additional weight to its findings. The board consisted of the following men:

Dr. Ira Remsen, president of Johns Hopkins University.

Dr. Russell H. Chittenden, professor of physiological chemistry, Yale University, and director of the Sheffield Scientific School.

Dr. John H. Long, professor of chemistry in the Northwestern University Medical School.

Dr. Alonzo E. Taylor professor of physiological chemistry, University of Pennsylvania.

Dr. Theobald Smith, professor of comparative pathology, Harvard University.

The board made the following findings:

"Aluminum compounds when used in the form of baking powders in foods have not been found to affect impuriously the nutritive value of such foods.

"Aluminum compounds when added to foods in the form of baking powders, in small quantities, have not been found to contribute any poisonous or other deleterious effect which may render the said food injurious to health. The same holds true for the amount of aluminum which may be included in the ordinary consumption of aluminum baking powders furnishing up to 150 mg. (2.31 grains) of aluminum daily.

"Aluminum compounds when added to foods in the form of baking powders, in large quantities up to 200 mg. (3.09 grains) or more per day, may provoke mild catharsis.

"Very large quantities of aluminum taken with foods in the form of baking powders usually provoke catharsis. This action of aluminum baking powders is due to the sodium sulphate which results from the reaction.

"The aluminum itself has not been found to exert any deleterious action injurious to health, beyond the production of occasional colic when very large amounts have been ingested.

"When aluminum compounds are mixed or packed with a food the quality or strength of said food has not been found to be thereby reduced, lowered or injuriously affected."

In short, the board concludes that alum baking powders are no more harmful than any other baking powders, but that it is wise to be moderate in the use of food that are leavened with baking powder.

In Dr. Taylor's conclusions, a different aspect of the baking-powder question is brought out. It is shown that the product of all forms of baking powders is laxative, and the suggestion is made that the laxative effects of the continuous use of breads made with baking powder may be injurious. The objection applies to the cream of tartar baking powder which leaves a residue of Rochelle salts, to the phosphate baking powders which leave the phosphate of sodium and to the alum baking powders which also leave the sodium sulphate. Dr. Taylor says: "Apparently, therefore, at present at

least, the use of baking powder is associated with the introduction into the alimentary tract of a certain amount of saline cathartic, the salt differing with the use of a particular type of baking powder." In connection with this objection, the amount of soluble residue left by the decomposition of the baking powder becomes of importance.

Here, again, the pertinence of the objection depends on the quantity likely to be eaten. In no case is it likely that a person would consume bread or biscuits enough to get an appreciable effect on the bowels from the laxative produced.

The criticisms with reference to the action of baking powders indicate a tendency to magnify quite incidental matters whenever they seem to favor the interest of one or other manufacturer. Thus the tartrate was at one time highly regarded because it was a product which was destroyed in the system, leaving a natural constituent of the body, that is, potassium carbonate. More recently it has been discovered that the tartrates are only partially metabolized in the system removing the supposed advantage of the tartrate powders. On the other hand, there is a disposition to emphasize experiments tending to show the power of tartrates to affect the kidneys injuriously, although there is no evidence that such an injurious action can occur from the small quantity present in baking powders. While the objections to alum are unjustified, the physician will do well to inquire carefully into the probability of any alleged injury occurring from other forms of baking powder.

Journal of Indiana State Medical Association

On Friday, May 21st, over one hundred of the Detroit physicians tendered a complimentary dinner to Dr. Arthur D. Holmes, as an acknowledgment of the time and effort that the doctor had spent in bringing about the organization and establishment of the Wayne County Medical Society Club House.

The following menu and toasts composed the form of program of the evening:

MENU.

	D. J. Cocktail	
Olives	Pickles	Radishes
	Grape Fruit	
Soup	Bouillon	
Broiled Live Lobster—Tartar Sauce		

Saltines—Vienna Bread		
Cigarettes	Punch	
Filet de Mignon with Fresh Mushrooms		
Sauterne		
New Peas	Hot Rolls	New Potatoes
Spring Salad—Wafers		
Strawberry Short Cake	Ice Cream	Cigars
Cheese—Crackers		
Coffee		
Liquor Sedans	Peruna	Malt Extract
TOASTS.		

As a Man and a Citizen Guy L. Connor
 "His past is like an open book."
 As a Family Doctor E. P. Mills
 "A man's a man for a' that."
 As a Obstetrician W. L. Babcock
 "By their fruits ye shall know him."
 As a Proctologist L. J. Hirschman
 "A rose for another name would smell as sweet."
 As a Pediatrician T. B. Cooley
 "Every little movement has a meaning all it's own."
 Home, Sweet Holmes By Himself
 "I like a man that is a man
 A man that's straight and fair,
 The sort o' man that will and can
 In a' things do his share."

The following parody on "Tipperary" took well, the music being furnished by a string and vocal quartette of students from the Detroit College of Medicine:

Up from quiet Chatham came a Braw Scotch lad one day
 In Detroit he pitched his tent and vowed that he would stay
 Singing songs of pediatrics, what shall baby wear
 Till all the people listened when he shouted to them there.

(Chorus)
 It's the wrong way to raise the baby
 It's the wrong way you know
 It's the wrong way to raise a baby
 Just to watch them as they grow.
 Good-bye Misses Winslow. Farewell dope so queer
 It's a wrong wrong way to raise a baby did Doc Holmes declare.

Artie wrote a letter to his Chatham people O!
 Saying "This is nuts for me, finest thing you know
 People has me night and day I'm always on the job
 It must be that my manner causes women's hearts to throb."

So all these years he's labored on, ever making hay
 Gathering friends around him in the same old genial way,
 Keeping kids from pickalilly and concoctions queer
 Now there's none more popular and all are glad he's here.

The dinner was a great success. Dr. T. K. Holmes of Chatham, Ontario, an uncle of Dr. A. D. Holmes, made an inspiring address on the future of the sister countries and the role of medical men in their development.

A beautiful loving cup was presented to Dr. Holmes, with the inscription, "Presented to Arthur David Holmes as a testimonial of his work for the Wayne County Medical Society, May 1, 1915."

Deaths

Dr. Matilda Towsley of Kalamazoo, aged 84, one of the first American women to become a regular practicing physician, died during the early part of April from injuries received while traveling in the east. Dr. Towsley was an honorary member of the Kalamazoo Academy of Medicine.

Correspondence

OPINIONS SOLICITED.

On January 20, 1915, Mrs. W. was brought to the Emergency Hospital for the purpose of having a uterine fibroid removed. Family history, good. Personal history, age 42, married eighteen years, never pregnant, never had a day's illness in her life. About eight months previous noticed something of a hard or solid lump in her abdomen and consulted her physician who diagnosed uterine fibroid, which proved correct.

On January 21, 1915, under ether anesthesia, the tumor, which comprised the whole uterus, was removed through the abdominal route (tumor size of fetal head at term). No adhesion. Operation completed without hemorrhage. I should have said the intestines were walled off from the field of operation so that no traumatism could possibly have been inflicted upon them. After the pelvic toilet was completed the appendix was brought to view. Its omental attachments cared for it was ligated close to the head of the cecum, cut off, leaving a very narrow distal margin. Stump not buried. A ventral drainage tube placed through right lower abdominal quadrant and abdominal incision closed in the usual manner and sealed with colodion and gauze.

Patient was placed in bed at 11:30 a. m. (foot of bed elevated), in which position she rested well for the first twenty-four hours. Pulse 78, temperature normal. At 9 a. m. on January 22, when dressings were exchanged only slight pink stain found on approximate dressings. No nausea or vomiting occurred; she expressed herself as "feeling fine, much better than she had expected." About 11:30 a. m. she was seized with excruciating pain in abdomen which required several "hypos" to control. A few hours after control of pain she called for the

catheter (which had been used) and while the nurse was attending to her duty she discovered the dressings were soiled, also a peculiar odor to which she called my attention. On removing the bandages and dressings I found intestinal contents and gas issuing from the drainage tube in great quantities. Pulse at that time had reached 140 and temperature 102 degrees, despite all efforts by transfusion and stimulants; no surgical procedure was deemed endurable by the patient. Believing she would not stand even the anesthesia, much less the opening of the abdomen, she continued in this or worse condition until the 24th instant when death came, three days after operation.

Now I desire in all frankness and kindness if the surgeons who read this article will tell me, through the columns of *The Journal*, or otherwise, their opinion as to where or at what point this intestinal leak occurred.

D. H. Wood,
Emergency Hospital,
Coldwater, Mich.

State News Notes

The Kalamazoo Board of Health absolutely refuses to assume any responsibility concerning what may happen in Kalamazoo as a result of the cut made in the appropriations for the Board's expenses. The Board holds that its work will be greatly hampered by lack of funds.

Dr. C. B. Burr of Flint attended the meetings of the American Neurological Association in New York and those of the American Medico-Psychological Society in Old Point Comfort, Va., during the month of May.

Since it was opened April, 1912, the Houghton County Tuberculosis Sanitarium has admitted 220 patients. There were sixty-six deaths in the three years. At present there are thirty-one patients under treatment with a waiting list of twenty.

Dr. M. L. Holm of Lansing has resigned as State Bacteriologist. Dr. A. A. Spoor, formerly of Big Rapids but now of Iowa, has been appointed to fill the vacancy.

The American Proctological Society will hold its Seventeenth Annual Meeting in San Francisco, June 21, 22. Drs. L. J. Hirschman and J. A. MacMillan, of Detroit are on the program.

The Twenty-Fifth Anniversary of the opening of Butterworth Hospital, Grand Rapids, was celebrated April 29.

Dr. Harold W. Wiley of South Haven and Miss Helen G. Usher of New York were married in New York on May 1.

Dr. I. N. Monfort of Ithaca met with a painful accident when an alcohol lamp exploded seriously burning his face.

Dr. H. S. Bartholomew of Lansing has been appointed a member of the State Board of Health to succeed the late Dr. T. M. Koon.

Dr. V. C. Vaughan, Sr. has been elected a member of the National Academy of Sciences.

Dr. J. D. Greenamyre of Niles sustained a fractured leg caused by a fall from a step ladder.

Dr. J. H. Kellogg of Battle Creek is visiting in California.

Dr. J. C. Brown of Battle Creek has been appointed a member of the State Board of Pardons.

Dr. B. H. McMullen of Cadillac has returned home after six weeks vacation in California.

Dr. Ralph Apted of Grand Rapids is recovering from a gallbladder operation.

Dr. Reuben Peterson of Ann Arbor has been appointed a member of the State Board of Registration for Nurses.

Drs. W. R. and J. R. Stringham have opened a private hospital in Cheboygan.

Bay City has appropriated funds for medical school inspection.

The Battle Creek Sanitarium will open a new surgical pavillion that costs \$90,000 on June 1st.

During the past year 2,016 patients were admitted to Butterworth Hospital, Grand Rapids. The total receipts were \$54,509.68 and the total expenditures \$60,544.43.

Don't fail to read the editorial outlining the plans for a "Michigan Tuberculosis Day."

PROGRAM—ANNUAL CLINIC WEEK—MAY 26 TO JUNE 3.
(Subject to Change)

WEDNESDAY, May 26, Harper Hospital.

9 TO 10 A.M.

Internal Medicine,

Dr. C. G. Jennings

10 TO 11 A.M.

Clinic Surgery,

Dr. Max Ballin

11 A.M. TO 1 P.M.

Differential Diagnosis of Sarcoma of the Long Bones
Prof. Wm. B. Coley, New York

2:30 TO 4:30 P.M.

Section Clinics.

Surgery,

Dr. F. N. Blanchard

Gynecology,

Dr. B. R. Schenck

Eye and Ear,

Dr. G. E. Frothingham

Pediatrics,

Dr. W. D. Ford

Urology,

Dr. F. H. Cole

Laboratory,

Dr. F. P. Morse

THURSDAY, May 27, St. Mary's Hospital.

9 TO 10 A.M.

Bone Surgery,

Dr. F. B. Walker

10 TO 11 A.M.

Clinic Dermatology,

Dr. A. P. Biddle

11 A.M. TO 1 P.M.

Streptococcus Viridans,

Prof. E. C. Rosenow, Chicago

2:30 TO 4:30 P.M.

Section Clinics.

Surgery,

Dr. W. J. Seymour

Medicine,

Dr. T. A. McGraw, Jr.

Eye and Ear,

Dr. R. W. Gillman

Gynecology,

Dr. Howard Coll

Dermatology,

Dr. R. A. C. Wollenberg

Nose, Throat and Chest,

Drs. S. G. Miner, J. E. Casey, R. G. Shaw

Laboratory,

Dr. F. W. Baeslack

FRIDAY, May 28, Harper Hospital.

9 TO 10 A.M.

Clinic Internal Medicine,

Dr. G. E. McKean

10 TO 11 A.M.

Eye and Ear,

Dr. Don M. Campbell

11 A.M. TO 1 P.M.

Clinic Obstetrics,

Dr. Asa B. Davis

2:30 TO 4:30 P.M.

Section Clinics at Grace Hospital.

Surgery,

Drs. H. W. Hewitt, J. B. Kennedy

Nose and Throat,

Dr. Harold Wilson

Surgery,

Dermatology,

SATURDAY, May 29, St. Mary's Hospital.

9 TO 10 A.M.

Clinic Gynecology,

10:30 TO 11:30 A.M.

Cardiac Diseases,

Prof. Arthur R. Elliott, Chicago
11:30 A.M. TO 1 P.M.Cleft Palate and Hare Lip, with special emphasis on
the time to operate, choice of operation and
after care,

Prof. Samuel W. Kelley, Cleveland

Buffet lucheon at Herman Kiefer Hospital at 1:30.

Clinic at Herman Kiefer Hospital, 2:30 to 5.

Infectious Diseases,

Drs. Guy L. Kiefer, Dr. V. C. Vaughan, Jr.
8:00 P.M.Smoker, Vaudeville and Lunch at Wayne County
Medical Society Building. Guests of D. C. of M.
& S. Alumni Association.

MONDAY, May 31, Harper Hospital.

9 TO 10 A.M.

Twilight Sleep in Labor,

Dr. John N. Bell

10 TO 11 A.M.

Surgery of the Thyroid,

Dr. Angus McLean

11 A.M. TO 1 P.M.

Acquired Static Deformities with special emphasis
on early diagnosis.

Prof. Chas. Ogilvy, New York

2:30 TO 4:30 P.M.

Section Clinics.

Surgery,

Medicine,

Dermatology,

Obstetrics,

Roentgenology,

Laboratory,

8:00 P.M.

Guests of the Wayne County Medical Society.

Dr. Charles Ogilvy

TUESDAY, June 1, St. Mary's Hospital.

9 TO 10 A.M.

Clinic Internal Medicine,

Dr. W. M. Donald

Pleurisy,

10 TO 11 A.M.

Dr. Stanley G. Miner

11 A.M. TO 1 P.M.

Reserve Force of the Heart, Arhythmia, Signifi-
cance of Diastolic Murmur,

Prof. W. H. Robey, Boston

2:30 TO 4:30 P.M.

Section Clinics at Children's Free Hospital.

Medicine,

Dr. A. D. Holmes

Orthopedics,

Drs. Daniel La Ferte, A. D. La Ferte

Pediatrics,

Dr. B. R. Hoobler

Nose and Throat,

Dr. B. R. Shurly

8:00 P.M.

Class Reunions:

1870	1885	1900
1875	1890	1905
1880	1895	1910

WEDNESDAY, June 2, Harper Hospital.

9 TO 10 A.M.

Local Anesthesia in Rectal Surgery,

Dr. L. J. Hirschman

10 TO 11 A.M.

Clinic Gynecology,

Dr. J. H. Carstens

11 A.M. TO 1 P.M.

Clinic, Kidney and Ureter,

Prof. Daniel Eisendrath, Chicago

2:00 P.M.

Laboratory Demonstration at Parke, Davis & Co.
Boat ride Str. Tashmoo.Annual Meeting and Election of Officers on board
the boat.

Complimentary dinner by Dr. Alexander W. Blain.

THURSDAY, June 3, St. Mary's Hospital.

9 TO 10 A.M.

Clinic, Urology,

Dr. F. W. Robbins

10 TO 11 A.M.

Clinic, Eye and Ear,

Dr. Eugene Smith

11 A.M. TO 1 P.M.

Abdominal Diagnosis,

Dr. F. F. Lawrence, Columbus, Ohio

2:30 TO 4:30 P.M.

Section Clinics.

Surgery,

Dr. J. H. Andries

Medicine,

Dr. N. L. Hoskins

Roentgeology,

Dr. G. C. Chene

Urology,

Dr. W. E. Keane

Eye and Ear,

Dr. Robt. Beattie

Laboratory,

Dr. F. W. Baeslack

8:00 P.M.

Graduating Exercises.

County Society News

CALHOUN COUNTY

The fifth regular meeting of the Calhoun County Medical Society for 1915 occurred on Tuesday evening, May 4, at eight o'clock. The program was in the nature of a symposium on kidney conditions.

PROGRAM.

Possibilities of X-Ray Diagnosis in Urological Disorders,

Dr. James T. Case, Battle Creek, Sanitarium.
The Etiology and Treatment of Nephritis,

Dr. Joseph L. Miller, Chicago
Surgical Aspects of Kidney Disturbances,

Dr. R. C. Stone, Battle Creek

The Goiter Committee has been doing some more aggressive work during the past month, endeavoring to assist in the goiter survey. It seems we should call in the blanks very soon, and we would ask the members to be ready to hand in their reports at the next meeting of the society. This meeting will occur on June 1, and we hope that every member will either mail his report to the secretary previous to date of meeting, or will turn in the blanks at the time of our meeting.

Some physicians say they have nearly 100 cases, which have come under their observation during this time, while many have more than fifty cases. It is apparent that those who are looking for cases of goiter find plenty of them to report.

Kindly bear this in mind and assist the committee by being ready to report at the time indicated.

A. F. KINGSLEY, Secretary.

EATON COUNTY

The last meeting of the Eaton County Medical Society occurred on the 29th of April last, at 1:30 p. m., and was held at the Court house in Charlotte.

The program presented the following interesting papers:

1. "The Advantage of an Adequate Equipment in the Practice of Obstetrics."

This was presented by Charles E. Boys, M.D., of Kalamazoo, and was followed by discussions by Drs. Burleson, Sacket and others.

2. "Hysteria."

This was presented by Prof. Theophil Klinger-mann, M.D., of Ann Arbor, and was afterwards discussed by Drs. Stimson, Newark and others.

Both of the topics presented were ably handled and were of great interest, as were the discussions thereon which followed.

This meeting had a large attendance and all present agreed that both papers were very interesting as well as instructive, and would be of great benefit to the general practitioner.

Many regrets were expressed by those present that any member of the society be so unfortunate as to be unable to be present on this occasion.

It was voted at this meeting that the society hold a special meeting at Eaton Rapids during the month of June. It was also voted that the meetings of the society be held every two months starting with our next regular meeting in July.

The meetings of this society, so far, have been of much interest and well attended, and no practitioner in Eaton county should miss them, as they are uniformly interesting and instructive. In addition to this, we believe it raises the standard of the profession by spending a half day once in two months in meeting with one another and becoming better acquainted. Every member always has something of interest to the other members to submit, either as a part of the meeting proper, or informally before the meeting commences or after its ending, and we trust that at our next meeting every member of the profession in Eaton county will be present. A cordial invitation is extended to the members of the profession generally.

G. M. BYINGTON, Secretary.

GRAND TRAVERSE-LEELANAU COUNTY

The regular monthly meeting of the Grand Traverse-Leelanau County Medical Society was held at Dr. Minor's office, Traverse City, Mich., Tuesday evening, May 4. The meeting was well attended, and a most interesting and instructive program was given.

Dr. W. M. Payne, of Suttons Bay, read a masterly paper on the subject of "Saturnine Encephalopathy." Discussion by Drs. Thurtell and Mueller.

A very able and practical paper on "Placenta Previa" was read by Dr. G. W. Fralick, of Maple City. A general discussion of the paper followed.

The application of H. V. Hendricks, M.D., Harvard University, Assistant Physician at the Traverse City State Hospital, was received.

W. D. MUELLER, Secretary.

IONIA COUNTY

The monthly meeting of the Ionia County Medical Society was held at Belding, May 13th, the Belding

members furnishing the entire program. In the evening Dr. W. T. Dodge of Big Rapids gave a paper on "Infections of the Hand."

The next meeting of the society will be held at Portland on June 17.

R. R. WHITTEN, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

About fifty members of the Kalamazoo Academy of Medicine convened for regular session on April 27, 1915 to listen to a report of a case of "Cholelithiasis with Rupture of a Calculus into the Stomach," by Dr. R. E. Balch, Kalamazoo, Mich. In discussing this case the Doctor mentioned the fact that in looking through various text books no mention of such a case could be found. The gall bladder was adherent to the greater curvature of the stomach about three inches from the pylorus. In this mass of adhesions an opening was found into the stomach about the size of an index finger. In discussing this case Dr. Boys also reported one of this class.

Dr. William Lyon of Jackson, Michigan read a paper on "A Plea for Individualization in Infant Feeding."

The present tendency is toward the longer feeding intervals but surely there are instances where this may be disastrous as certain failing babies will apathetically starve to death if not frequently fed the small quantities that they can digest. Prove the case against the breast absolutely ere the infant is weaned. Some fault of quantity or quality of breast milk is the cause of the disturbance and a supplementary feeding may eliminate the difficulty. However, be careful that the supplementary feeding does not replace breast feeding.

Dr. Harry Schmidt of Ann Arbor read a paper upon "Diagnosis and Treatment of Gastric Ulcer." The etiological factors in the development of gastric ulcers were discussed in detail. In differential diagnosis he made one point clear that when patients fail to improve on Lenhardt's treatment gall bladder disease or appendicitis should be expected. The discussion brought out the fact that there was considerable difference in opinion among pathologists as to the frequency of carcinoma developing on the bed of an old ulcer.

On May 11, 1915 thirty members enjoyed the regular noon day luncheon at the Park American House in honor of Dr. Joseph DeLee of Chicago. Ninety-five members attended the program session.

In the business session an amendment to the constitution had its first reading whereby associate and non-medical membership can be conferred upon those scientifically trained but who do not hold a degree

in medicine but show an interest in the work the Kalamazoo Academy is doing.

Dr. C. E. Boys of Kalamazoo illustrated some cases in treating hemorrhage in obstetrics. He emphasized the fact that every doctor doing obstetrical work should be prepared to treat heroically a sudden onset of hemorrhage in practice of obstetrics. Not only should there be general treatment to counteract the condition but one should be able to introduce salt solution in the body of a patient sub-cutaneously or intravenously or use direct blood transfusion.

Dr. Walter den Bleyker of Kalamazoo reported a case of "Acute Yellow Atrophy of the Liver," that developed during a case of severe toxemia during pregnancy. This toxemia was manifested by vomiting that could not be controlled. Death ensued and the diagnosis could not be confirmed because a post-mortem was not allowed. The symptomology was sufficiently evident to establish this diagnosis.

Dr. Joseph DeLee of Chicago, Ill. was the principal essayist of the day. He gave an address upon "The Newer Methods of the Cesarean Section."

Dr. DeLee commented in detail upon cesarean section from a historical standpoint. This operation was known by the early Egyptians and was often referred to by the folk-lore of the European races. In 1879 Felkin, an African traveler, witnessed a cesarean section performed by natives in the heart of Uganda. They depended upon banana wine for anesthesia and anticepsis. Dr. DeLee reviewed at length the various operative procedures that had been developed and discarded for newer methods. He divided the method of operation into two classes, trans-peritoneal and extra-peritoneal methods.

In the discussion he was asked to express his views upon twilight sleep. He related his experience of six weeks at Frieberg. This experience somewhat discouraged him in attempting the application of this form of anesthesia in obstetrics. His assistant tried out twilight sleep in the Cook County Hospital where they had fifteen successful cases. Then a dead baby was delivered, the post-mortem report of which could not attribute death to any cause only scopolamine-morphine anesthesia. This discouraged them and no more attempts were made to use twilight sleep in this service. However, Dr. DeLee uses it in his private practice when his patients demand it. The application of twilight sleep demands constant attention and for this reason the accoucheur must receive extra compensation.

CLARKE B. FULKERSON, Secretary.

KENT COUNTY

At the meeting of the Kent County Medical Society March 24, 1915, Dr. M. L. Harris of Chicago

spoke on "Local Anesthesia in Surgery," describing his instruments, his mixtures and his ingenious methods of selective nerve anesthesia in contradistinction of the diffuse infiltration practiced by Crile and others.

On April 14 Dr. Henry Hulst gave an exceedingly interesting and thorough review of the diabetes question. The guest of the evening, Dr. Joseph C. Beck of Chicago, read a paper on "The Present Status of the Diagnosis and Treatment of Malignant Disease of the Larynx and Upper Part of the Oesophagus; with Demonstration of the Methods." Dr. Beck brought with him the apparatus he used in diagnosis and operative treatment, by means of which he secures a far wider operative and observation field in the throat than is possible by the older methods. The speaker, while somewhat pessimistic as to prognosis in malignant throat conditions, showed a thorough familiarity with the subject and held the attention and interest of the Society throughout.

On May the 28th Dr. J. S. Brotherhood and Dr. S. L. O'Brien were elected to membership. Dr. Eugene Boise read a short but illuminating paper on the "Use of Strychnine and Caffeine in Infectious Diseases." The essayist of the evening, Dr. H. W. Plaggemeyer of Detroit then read a paper on "The Mechanism of Urinary Obstruction in its Relation to Reaction in Kidney Function." Dr. Plaggemeyer's paper embodied considerable original work and was an epitome of present-day prostatic knowledge. At the conclusion of the program the members of the Society adjourned to the Livingston Grill where a complimentary luncheon and smoker was enjoyed in honor of Dr. Plaggemeyer.

On May the 11th, Dr. Joseph B. DeLee of Chicago spoke before the members of the Society and a large number of visiting nurses on the subject "The Newer Methods of Abdominal Cesarean Section." He described more than twenty methods of doing this important operation, and used a lantern to illustrate the steps in operating. The whole address was a masterly presentation of the subject given with the keen attention to detail which has made Dr. DeLee one of the foremost teachers of this country. In the discussion following the paper, Dr. DeLee was asked his opinion of the so-called "twilight sleep." He stated that he tried it at various times since 1902 and watched it for six weeks at Freiburg where he saw many blue babies and prolonged labor. He believes it has a field, but a very limited one, and should only be used under constant expert supervision. An enjoyable dinner was given to Dr. DeLee by the members of the Kent County Medical Society at the Peninsular Club.

FRANK C. KINSEY, Secretary.

MIDLAND COUNTY

The Midland County Medical Society held its regular meeting in April.

Dr. R. J. St. Louis read a paper on his success with Emmetine Hydrochloride on Pyorrhea, and treatment of it in typhoid fever.

Dr. J. H. Johnson read a paper on "How to use 606" and his success in several cases.

Dr. F. A. Towsley gave a talk on medico legal cases.

Dr. E. J. Douglas gave a talk on his visit to the Mayo Clinic, describing several surgical operations.

E. J. DOUGLAS, Secretary.

MUSKEGON-OCEANA COUNTY

The regular meeting for April 30 was held at the Woodlawn Hospital, which the city is now using as a tuberculosis hospital. The meeting was devoted entirely to the discussion of tuberculosis work in this vicinity. Dr. J. T. Cooper read a paper upon the subject. The city council was asked to meet with the society.

The last meeting, May 14, was practically a continuation of the former and different phases of the subject were taken up in detail by Dr. Jacob Oosting, Dr. C. J. Bloom, Dr. I. M. Hotvedt, Dr. G. J. Hartman and Dr. L. N. Eames.

JACOB T. CRAMER, Secretary.

SAGINAW COUNTY

The monthly meeting of the Saginaw County Medical Society was held at the Bancroft House, March 24, about fifty member being present.

Mr. Lyon of the Fly Lilly Company was present giving a brief talk, and spoke of the Harrison Law.

Dr. V. C. Vaughan, Jr., of Detroit, presented a paper upon "The Early Diagnosis of Pulmonary Tuberculosis."

Or. W. J. O'Reilly, City Health Officer, spoke of the local tuberculosis situation. Remarks on this subject were also made by Mayor Richardson.

The Anti-Tuberculosis Association was represented and several nurses interested in the subject were present.

An interesting post mortem specimen showing a gastro enterostomy was demonstrated by Drs. T. L. Ryan and H. J. Meyer.

A. R. MCKINNEY, Secretary.

The Saginaw County Medical Society met for its regular meeting May 5 at the Bancroft House. The attendance was probably the largest we have ever had at a regular meeting.

Dr. F. C. Warnshuis presented a paper on "Indications for Cerebral Decompression." The subject

was presented in a helpful manner and was discussed by many of the members. Patients were presented before the Society demonstrating this subject.

Dr. J. T. Sample gave a report of an interesting case of Cesarean section.

Dr Warnshuis gave a talk on the organization of the medical societies which was enlightening to us all.

A. R. McKINNEY, Secretary.

WAYNE COUNTY

Tuesday, April 27—Social Session.

The Entertainment Committee arranged with Mr. John Fox to give a travelogue profusely illustrated with stereopticon and moving picture views along the Northern Pacific railway from St. Paul to San Francisco.

In addition there was music, refreshments and cigars.

Monday, May 3—General Meeting.

Etiology of Thrombi and their Surgical Significance and Relationship to Subsequent Embolic Abscesses.

Dr. Angus McLean.

Discussion opened by Dr. John N. Bell, Dr. Raymond C. Andries, Dr. George E. McKean.

A Method for Determining the Cost of Practicing Medicine.

Thaddeus Walker.

General Discussion.

Monday, May 10—Medical Session.

Pain as a Symptom and Its Significance,

Dr. J. H. Dempster.

Discussion opened by Dr. Wesley Taylor, Dr. James E. Davis.

A joint dinner and meeting were held with the Detroit Retail Druggists Association and the Detroit Branch of the American Pharmaceutical Association. Mr. Hall, President of the Detroit Retail Druggists' Association, presided. After dinner Dr. V. C. Vaughan, of the University of Michigan, gave a talk upon his work with the poisonous group of the protein molecule and its relation to the infectious diseases. The meeting was a great success and enjoyed by all.

NOMINATIONS.

The result of the ballot for nominations is given below. Ninety-three ballots were cast in which sixteen men were named for president, twenty-eight for vice-president, sixteen for secretary, and ninety-one for trustee. The two receiving the highest number of votes for president, vice-president and secretary, respectively, appear below. Since there are five trustees to elect this year the committee should submit the highest ten named. This number

is increased to twelve however because of a tie in the last three.

For President.

Frank B. Walker
George E. McKean

For Vice-President

Harold Wilson
George E. McKean

For Secretary

C. E. Simpson
H. K. Shawan

For Trustees.

(Five to be elected)

A. D. Holmes	Don M. Campbell
B. R. Schenck	John N. Bell
L. J. Hirschman	Thaddeus Walker
R. L. Clark	B. R. Shurly
H. W. Longyear	A. P. Biddle
W. L. Babcock	Angus McLean

Monday, May 17—General Meeting

"Marriage Rites and Obstetric Practices Among the Ancient Romans." Lantern demonstration.

Dr. W. P. Manton

Common Obstetrical Abnormalities.

Profusely illustrated by lantern slides and drawings.

Dr. C. Hollister Judd

Discussion opened by Drs. Nathan Jenks, H. Wellington Yates, G. Van Amber Brown.

Monday, May 24—Surgical Section.

"Some Phases of Appendicitis."

Dr. Hugo O. Pantzer, Indianapolis

Discussion opened by Drs. Max Ballin, W. P. Manton, L. J. Hirschman.

The officers for the Medical Section for 1915-1916 elected at the last meeting were:

Dr. W. J. Wilsen, Jr., Chairman.

Dr. H. R. Carstens, Secretary.

It is believed by some that the clinic week soon to be held is restricted to members of the college. We are informed that this is not so. The clinics are for the benefit of the medical profession of the city and every one is invited to attend as often as he can.

Book Reviews

MATERIA MEDICA AND THERAPEUTICS. A Text Book for Nurses. By Linette A. Parker, B. Sc., R.N., Instructor in Nursing and Health, Teachers College, Columbia University. 12mo, 311 pages, illustrated with 29 engravings and 3 plates. Cloth, \$1.75, net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The author has carefully and with much discrimination weighed the knowledge of Materia Med-

ica and Therapeutics requisite to the highest efficiency in the nurse, and has planned her work to embody precisely this material. Her aim has been not to qualify the nurse to take the place of the prescribing physician or the compounding pharmacist, but to give her that grasp of the subject which will enable her to handle and administer drugs with intelligence. She has carefully avoided the inclusion of material that will not be specially useful to the nurse.

She has brought to the preparation of this volume a comprehensive knowledge of *Materia Medica* and a keen insight into the problems of the nurse and her special needs as regards rational training. The student whose careful study of this volume is supplemented by class room demonstrations of the appearance and characteristics of drugs along the lines clearly indicated by the author will bring to the performance of her duties just that degree of knowledge that is most likely to serve the needs of the physician in attendance and the interests of the patient.

Essential facts only are presented, and details that might confuse the mind of the student are avoided. The nurse learns from this volume not only that certain drugs are administered in certain conditions, but the reasons for their selection. Recognizing the nurses' view point, the author places emphasis not on the fact that a certain drug is prescribed in a certain condition, but on what action the drug ordered by a doctor may be expected to have, what untoward effects may be looked for, and the emergency procedure pending the physician's arrival in case of an overdose.

In the preliminary sections tables, technic and the necessary definitions are clearly stated and explained. The consideration of drugs is logically arranged by systems—nervous, muscular, circulatory, etc.—with an additional section devoted to specifics and drugs which affect nutrition. A concise chapter on legislation concerning poisons and habit-forming drugs includes consideration of the Harrison law, indicates just which drugs are restricted and how to conform to the law. In the chapters on Psycho, Hydro, Electro, Serum and Ray Therapy a clear insight is given into a department of scientific medicine, access to which has heretofore been had only through the most technical of medical treatises.

The illustrations are at once striking, appropriate and illuminative. The author's easy style, faculty of clear expression and ability to absorb the interest of the reader add to the usefulness of a book in which the scope and purpose indicated by the title are never departed from.

PYELOGRAPHY (Pyelo-Ureterography) A STUDY OF

THE NORMAL AND PATHOLOGIC ANATOMY OF THE RENAL PELVIS AND URETER. By William F. Braasch, M.D., Mayo Clinic, Rochester, Minn. Octavo volume of 323 pages, containing 296 pyelograms. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$5.00 net.

The profession has eagerly awaited the publication of this work and now that we are in possession of it our expectations have not been disappointed.

Dr. Braasch's new work is the first collection of the various types of pelvic outlines, both normal and pathologic. You get here nearly 300 skiagrams of the renal pelvis and ureter, selected from several thousand plates made at the Mayo Clinic. These pyelograms, together with the clear descriptions, constitute an admirable aid to the differential diagnosis of the various conditions affecting the renal pelvis. The characteristic pelvic outline in each disease is first shown you by the excellent pyelograms; then Dr. Braasch interprets these pyelograms for you in diagnostic terms. You get the history of pyelography, the exact technic (selection of the medium, preparation of solution, method of injection, sources of error, results), the normal pelvis, the various pathologic outlines, and the outlines in congenital anomalies. It is a most complete work.

The work is a scholarly discussion, original and is not only a book for reference, but a book for repeated reading.

The author's endeavors have thus presented the profession with a most valuable and instructive book that is assured sincere appreciation. It will long occupy a pre-eminent position.

PATHOLOGICAL TECHNIC. Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. Mallory, M.D., Associate Professor of Pathology, Harvard Medical School; and J. H. Wright, M.D., Pathologist to the Massachusetts General Hospital. Sixth edition, revised and enlarged. Octavo of 536 pages with 174 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth \$3.00.

This book is designed for practical use in pathological laboratories, both as a guide to beginners and a reference work for the advanced workers. It is the book for practitioners doing more or less general pathological work.

This sixth revision enhances its value by incorporating the latest and approved laboratory methods.

Possessed of a work, giving, as this author does, the more useful and reliable methods the owner is equipped with a compilation of technic that will enable him to solve his problems of technic and at the same time evoke the fullest interpretation of his specimens.

A MANUAL OF DISEASES OF INFANTS AND CHILDREN.

By John Ruhrah, M.D., Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore, Md. Fourth edition, thoroughly revised. 12mo. volume of 552 pages, 175 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.50 net.

This fourth edition is revised to date. There have been inserted articles on pellegra, the use of the soy bean, newer methods in infant feeding, a chapter on drug eruptions and a full account of the Binet-Simon test for the mentality of children.

It is a work prepared for the medical student and enables him to grasp the more important parts of the subject of pediatrics. For this reason it is of inestimable service to the general practitioner and will be found a most useful desk book.

Its complete list of references enables the reader desiring more extended information to turn to the readily accesible English journals where the articles referred to can be found. It is a work that a physician must have to keep in touch with the extensive literature and advances in pediatrics.

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume IV. Number II. (April, 1915). Octavo of 197 pages, 47 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year: Paper, \$8.00, Cloth, \$12.00.

An excellent discussion on Osteomyelitis is the feature of this issue. It is followed by the usual number of case histories and operations, thereby maintaining the recognized value of each number of these clinics

SWAT THE FLY. A one-act fantasy by Eleanor Gates. The Arrow Publishing Co., New York. Cloth, 31 pages. Price 25 cents.

Small, possibly in the number of pages, but containing much that is instructive. A publication that will have a large field of usefulness.

Miscellany

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies."

Standard Radium Solution for Bathing.—A 5.2 per cent. barium chloride solution containing radium chloride equivalent to 4.2 micrograms of radium per

bottle. For "Actions and Uses" see the article on radium in New and Nonofficial Remedies. The barium in the solution is said to have no effect. The contents of a bottle, containing 4.2 microcuries or 10,000 Mache units are used for a bath. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A.M.A.*, April 17, 1915, p. 1325).

Standard Radium Solution for Drinking.—A solution of two micrograms of radium and 1.3 mg. barium chloride per bottle of 60 c. c. For "Actions and Uses" see the article on radium in New and Nonofficial Remedies. In view of the small barium content, it is claimed that the physiologic action of barium may be ignored. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A.M.A.*, April 17, 1915, p. 1325).

Standard Radium Earth.—A mixture consisting chiefly of silica and small quantities of carnotite, 450 Gm. containing 0.45 micrograms of radium in the form of radium sulphate. For "Actions and Uses" see the article on radium in New and Nonofficial Remedies. For use the earth is mixed with water and heated for a time. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A.M.A.*, April 17, 1915, p. 1325).

Standard Radium Compress.—A compress containing 225 Gm. of a mixture consisting chiefly of silica and barium sulphate containing radium sulphate equivalent to fifteen micrograms of radium. For "Actions and Uses" see the article in New and Nonofficial Remedies on radium. Being applied, wet, it is claimed that the action is partly due to beta and gamma radiation of the radium salt and partly to the radium emanation which is dissolved out by the water. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A.M.A.*, April 17, 1915, p. 1325).

THE MAKING OF HYPODERMIC TABLETS.

The administration of a hypodermic solution is a common enough procedure, yet how many physicians appreciate the responsibility devolving upon the manufacturers of the tablets from which that solution is prepared? Hypodermic tablets are essentially emergency agents. For the most part they are made from powerful drugs. Their use usually denotes a critical condition upon the part of the patient. The preservation of a life may depend upon the promptness and efficiency of a single little hypodermic tablet. How important, then, that that tablet contain the medicinal component that it is presumed to contain; that it be soluble; that it be therapeutically active.

These thoughts forced themselves upon the mind of the writer on the occasion of a recent visit to

the hypodermic-tablet department of Parke, Davis & Co. Here we see the business of hypodermic-tablet making reduced to an actual science. Here we find tablet-making facilities such as exist probably nowhere else in the world. The equipment is complete to the last degree. The department is spacious, light, airy, clean. It is in charge of an expert who has long specialized in this branch of pharmacy and who has selected his assistants with rare discrimination. Every worker is an adept. Every hand is schooled to its tasks.

In the manufacture of Parke, Davis & Co.'s hypodermic tablets the components of the various formulas are weighed and reweighed, checked and rechecked by two experienced pharmacists working independently, one acting as a check upon the other, thus guarding against the possibility of error. Then, to be trebly sure, the ingredients are transferred to compartments where they are kept under lock and key to insure against mishap, after which they are again weighed and checked preparatory to the molding process.

Parke, Davis & Co. pride themselves upon the solubility, uniformity, identity and purity of their hypodermic tablets.

PROPAGANDA FOR REFORM.

Peacock's Bromides.—A report of the Council on Pharmacy and Chemistry points out that Peacock's Bromides (The Peacock Chemical Co.), said to contain the bromides of potassium, sodium, ammonium, calcium and lithium equivalent to fifteen grains of potassium bromide per fluidram, is secret in composition in that the amount of the individual bromides is not stated. The report contradicts the asserted uniformity of the preparation and the claim of superiority. It questions the asserted advantage of a mixture of bromides over a simple bromide solution and holds that, if there were any advantages in prescribing such a mixture of bromides, the physician should regulate their proportions. The report further points out that the therapeutic claims are misleading and not in accordance with modern teachings and practice. Thus while the Peacock company advises the liberal use of bromides in the treatment of epilepsy, the best clinical teaching advises the avoidance of bromides as far as possible (*Jour. A.M.A.*, April 3, 1915, p. 1177).

Chionia.—A report of the Council on Pharmacy and Chemistry discusses the claims made for Chionia (The Peacock Chemical Co.) said to be "A Preparation of Chionanthus Virginica"—a drug which is generally conceded to be worthless and which has been the subject of an unfavorable report of the Council. While claiming Chionia to be a "potent

hepatic stimulant" the exploiters appear to appreciate its inefficiency, for it is advised to combine the nostrum with drugs of recognized potency such as the heart tonics and laxatives in passive congestion of the liver mercurial purge, podophyllin or sodium phosphate in "Biliousness," etc. (*Jour. A.M.A.*, April 3, 1915, p. 1178).

Dr. May's Formula.—Dr. May's Formula, formerly called May's Epilepticide, is sold on the mail order plan by Dr. W. H. May Medical Laboratory, New York. Examination in the A.M.A. Chemical Laboratory indicated that this "epilepsy cure" contains ammonium bromide and sodium bromide as the essential constituents, the bromide content being equivalent to fifteen grains of potassium bromide per fluidram (*Jour. A.M.A.*, April 3, 1915, p. 1178).

Hagee's Cordial.—The Council on Pharmacy and Chemistry reports that Hagee's Cordial of the Extract of Cod Liver Oil Compound (Katharmon Chemical Co.) has neither the nutritive qualities nor the reconstructive efficacy of cod liver oil and that it is worthless for the conditions for which it is advertised. Recent experiments having shown that cod liver oil, like butter and egg yolk, possesses certain growth-promoting properties not found in some other fats, the promoters of Hagee's Cordial claim these properties of cod liver oil for their extract. The Council has previously expressed the opinion that cod liver oil owes its value in the main or entirely to its fatty constituents. Now the Connecticut Agricultural Experiment Station has demonstrated that the growth-promoting properties of cod liver oil are not to be found in Hagee's Cordial (*Jour. A.M.A.*, April 10, 1915, p. 1262).

Wampole's Preparation.—Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver (H. K. Wampole Co., Inc.) is marketed under a non-quantitative and therefore practically worthless statement of composition. Experiments carried out at the Connecticut Agricultural Experiment Station have demonstrated that the Wampole Preparation, which also contains extract of malt and sugar, does not possess the advantages over ordinary cod liver oil as a source of nutriment, as claimed. Neither did the Wampole preparation appear to possess to any marked degree the reconstructive properties of cod liver oil, butter fat and egg yolk. The Council on Pharmacy and Chemistry held Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver ineligible for New and Nonofficial Remedies because, contrary to claim, it lacks both the nutritive and reconstructive properties of cod liver oil and because it is marketed under an indefinite name and under unwarranted claims (*Jour. A.M.A.*, April 10, 1915, p. 1262).

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No. 7

STATE OF MICHIGAN



EXECUTIVE OFFICE

LANSING.

June 14, 1915

TUBERCULOSIS PROCLAMATION.

The people of the State of Michigan always have been subject to the ravages of tuberculosis, a wholly preventable disease. This disease is the common enemy of mankind, and is rightly called the White Plague. The first manifestations of tuberculosis are frequently overlooked. The patient discovers his danger when it is too late. The Medical Fraternity of Michigan have it in their power to render the State an invaluable service. Their functions are to relieve suffering, cure disease and prevent disease and the greatest of these three is to prevent disease. Michigan physicians are ready to encourage and practice this form of patriotism—the patriotism of saving their fellowmen from this awful scourge. I suggest that on Friday, August the twentieth, any person in Michigan desiring a medical examination whereby he may ascertain whether he has any of the symptoms of tuberculosis, may have such examination and advice by asking a physician for it.

Therefore, I, Woodbridge N. Ferris, Governor of the State of Michigan, do hereby designate Friday, August the twentieth, A. D. 1915, as Tuberculosis Day, at which time all physicians engaged in the practice of medicine are requested to render this service without charge.

Original Articles

PREVENTION METHODS.

COLLINS H. JOHNSTON, B.A., M.D.
GRAND RAPIDS, MICH.

"Though the mills of God grind slowly,
Yet they grind exceedingly small,
Though with patience he stands waiting,
With exactness grinds he all."

—Longfellow

Inasmuch as the contagiousness of tuberculosis was recognized by various men throughout the Middle Ages and in 1865 Villeman demonstrated by experiments on animals that tuberculosis can be transmitted from one individual to another, is it not remarkable that when Robert Koch, in 1882, announced his discovery of the tubercle bacillus as the specific cause of tuberculosis a campaign was not at once inaugurated for elimination of this disease? As Tennyson says, however, "Knowledge comes but wisdom lingers," and it is only in comparatively recent years that the world seems to have awakened to the fact that tuberculosis can be prevented by the application of the same principles of sanitation that have been so successfully employed against typhoid fever, plague, malaria, yellow fever, hydrophobia, typhus fever, smallpox and leprosy.

There can be no tuberculosis without tubercle bacilli; the prevention of tuberculosis means the prevention of infection.

The Michigan State Board of Health was organized in 1872 at which time the death rate from tuberculosis in the state was about one hundred sixty per 100,000 population. Long before the discovery of the tubercle bacillus Dr. Henry B. Baker, who for over thirty years was Secretary of the State Board of Health, emphasized the communicability of this disease. As early as 1880 Dr. Henry F. Lister of Detroit, a member of the Board, wrote as follows: "The weight of medical opinion founded upon intelligent observation inclines to a belief in the contagiousness of phthisis." The Michigan State Board of Health was I believe the first one in this country to officially declare tuberculosis to be dangerous to the public health and to make it a reportable disease. This action was taken in 1893. At this time a campaign of education in the state was inaugurated and in the next ten years the death rate from tuberculosis in Michigan dropped to 99.2 per hundred thousand population.

For several years a number of prominent

medical men in the state, among whom were Drs. H. B. Baker, V. C. Vaughan, E. L. Shurly, J. H. Kellogg and H. J. Hartz, petitioned each succeeding legislature for an appropriation for a tuberculosis sanatorium in the state. In 1905 these efforts were crowned with success and in the fall of 1907 the Michigan State Sanatorium was opened three miles from Howell.

In March, 1905 on the invitation of Mr. S. H. Ranek, Librarian of the Ryerson Library of Grand Rapids, who had recently come from Baltimore where he had taken part in the organization in 1904 of the National Association for the Study and Prevention of Tuberculosis, Dr. V. C. Vaughan delivered an address on Tuberculosis in Grand Rapids at which time the local Anti-Tuberculosis Society was organized. The Detroit Society was organized in January of the same year. During the succeeding ten years the death rate from tuberculosis in Grand Rapids underwent a remarkable diminution, namely, from one hundred thirty-five per hundred thousand population for the three year period 1902-3-4 to seventy-nine and nine-tenths per hundred thousand population for the year 1914. During this same period the decline in the death rate in the entire state was from 99.6 per hundred thousand population to 89.4 per hundred thousand.

In April 1907, six months before the opening of the State Sanatorium at Howell and almost a year before the Detroit Sanatorium was opened, Grand Rapids opened its first sanatorium for the treatment of pulmonary tuberculosis.

In the present stage of civilization tuberculosis must be looked upon as the great social disease of modern life. Every third death during the working period of life is caused by it. Every other working man who becomes incapacitated must ascribe his condition to it. The only way to prevent it is to keep people from coming in contact with open cases. Seventy per cent. of all afflicted can be traced to previous cases. But, tuberculosis is so widespread that the co-operation of the state with political and social institutions as well as with private citizens is necessary in combating the disease.

As Pannwitz stated at the Sixth International Congress of Tuberculosis: "If the fight is to be taken up all along the line and an effective warfare waged against tuberculosis, as a national disease, it must not be allowed to depend upon the accident of some rich man

occasionally being willing to furnish the sinews of war. The fight is so many sided and requires so much capital that it far exceeds the resources of a single individual or even of private associations. We must find broader shoulders to support the load. The duty of carrying on this warfare at the present day rests logically with municipal governments."

Ten years ago in an address before the State Medical Society at Petoskey, the writer stated that "Here then is a disease which is constantly with us, manifestly preventable, and which at one time or another attacks a large proportion of the human race, concerning which the state has shown a neglect of sanitary laws that is almost criminal; and the question of the hour is: "What is the State of Michigan, and the various cities and counties within its borders, going to do about it?" The State of Michigan has finally made a splendid beginning in doing its part in the campaign by appropriating one hundred thousand dollars for the use of the State Board of Health in making a survey of the state for the purpose of locating the open cases and educating the people in methods of preventing contagion. For a good many years Michigan has been far in advance of most other states in its low death rate from this disease. In fact this state seems to constitute a great natural sanatorium for tuberculosis. A further reduction of mortality can confidently be expected, and it is not too much to hope that "The State of Michigan girdled with its zone of inland seas may be the first great community in all the world to realize the sanitarian's prophetic vision of the final extermination of the Great White Plague."

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS FROM THE STANDPOINT OF THE GENERAL PRACTITIONERS.

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The education of the public with regard to the subject of tuberculosis has at once simplified and rendered more difficult the task of the physician, with regard to the recognition of this disease. No longer do people demand a definite answer with regard to the presence or absence of early tuberculosis at the first visit. They are conversant with the insidious character of its onset and recognize that careful observations on several occasions are necessary in

order to arrive at definite conclusions in the earliest cases. On the other hand, the public does demand that such early diagnosis be made, and it has become justly intolerant of diagnoses of chronic bronchitis, asthma, etc. in which the etiological factor is shrouded in obscurity.

In the examination of an individual for the presence or absence of possible tuberculous disease, the previous history is of great importance. Careful inquiry should be made with regard to intimate association over a prolonged period of time with any individual suffering with chronic cough, whether a member of the family or not. The physician who asks only with regard to family history, will in many instances not only fail to uncover the source of infection, but may be led to attribute undue importance to tuberculous disease in a relative. Thus a family history of tuberculosis occurring in a married sister who contracted the disease from her husband and with whom the patient has had no association since the development of the trouble, is of little significance, whereas a history of close association with a tuberculous room-mate, may prove of vital importance as a possible source of infection.

In connection with the personal history, it may be stated at the outset that as a rule, cases of pulmonary hemorrhage, fistula in ano, and pleurisy associated with fever, whether dry or accompanied with the presence of serous exudate, in individuals under forty years of age, indicate active tuberculous lesions at the time at which these disorders were manifest. Attacks of so-called pneumonia not distinctly lobar in type, and especially if repeated, should be looked on with suspicion, as also should a history of repeated, prolonged attacks of "grippe." In children particular significance should be attached to a history of long-standing bronchitis, following measles. Chronic bronchitis, asthma and bronchiectasis should always demand careful investigation, and the physician who neglects repeated and searching tests for the possible presence of tubercule bacillus in the sputum of cases, is not doing his full duty to his patient.

The tubercle bacillus thrives best within the living body and finds conditions unfavorable to its growth in the external world. For this reason it is not to the advantage of this organism to destroy its host since in that way it deprives itself of its own abiding place. Therefore it has adapted itself to living as nearly as possible in harmony with the body of its victim, and produces the minimum amount of bodily reac-

tion. The onset of the disease is therefore gradual, slow and stealthy and the earliest symptoms consist of slight deviations from the normal, which moreover are for the greater part quantitative rather than qualitative in type. This statement might well lead to a pessimistic attitude on the part of the general practitioner were it not for the fact that the most important deviations are found in those bodily phenomena such as temperatures and pulse, which lend themselves easily to accurate observation. Thus the daily extremes of body temperature in connection with active pulmonary tuberculosis usually correspond in time to the extremes of temperature in the normal individual, the minimum being reached in the early morning hours and the maximum temperature occurring in the late afternoon or early evening. However, the temperature of the tuberculous individual displays the instability associated with a febrile state rather than the stability characteristic of the normal. Thus, while the normal temperature may vary from one to one and a half degrees, Fahrenheit, within twenty-four hours, the tuberculous daily fluctuation is notably greater, being distinctly subnormal in the morning and hypernormal in the afternoon and evening. A temperature of above 99.2° F. when constantly recurring and associated with a subnormal morning temperature indicating a wider fluctuation than normal should be regarded as suspicious, in the absence of any apparent cause. An insurance director once made the statement that given an accurate observation of temperature on each of three successive days, between the hours of 3 and 8 p. m. and excluding all risks that showed a temperature of 99.4° or above at each examination he would reduce the subsequent mortality from tuberculosis to a greater extent than through the employment of the most careful physical examination. It should also be borne in mind that an individual may become accustomed to a febrile temperature particularly when constantly recurring. Thus it is not unusual to find moderately advanced cases registering 100 degrees F. or above, who state that they do not feel feverish at the time of examination. The temperature of the actively tuberculous individual rises as a result of either physical or mental exertion as does that of the normal person but this is out of all proportion to the exertion made and is maintained over an excessive period of time. In tuberculous woman a premenstrual rise of temperature to 99.4° or above is frequently noted.

Associated with the instability of temperature

is found an instability of the pulse particularly with regard to rate, the daily fluctuation in number of beats being much greater than normal. Moreover, as a result of physical or mental exertion the rate is accelerated out of all proportion to that occurring under similar conditions in the normal, and this increased rate is maintained over an excessive period of time.

Fatigue on slight exertion is as a rule an early symptom. The patient complains of inability to attend to his daily duties and states that the sense of fatigue is out of all proportion to the amount of work done. In contrast distinction to the apparent fatigue associated with certain nervous conditions, in which the individual feels very tired in the morning, much stronger in the afternoon, and best of all at night, the tuberculous fatigue is due to a true exhaustion from work done. Thus the tuberculous person as a rule feels well in the morning and is tired out in the afternoon after slight exertion and is perfectly willing to retire as early as possible at night.

Instability of temperature, instability of pulse, fatigue on slight exertion, loss of weight, unexplained and moderate anemia and a low systolic blood pressure, all occurring in early adult life and not due to other demonstrable cause, may be considered as quantitative signs and symptoms of early tuberculosis and are sufficient to justify a probable diagnosis and to call for the institution of proper hygienic treatment and careful observation over a prolonged period of time. When in addition the qualitative deviations from normal as represented by pleurisy exclusive of empyema and the initial pleurisy associated with lobar pneumonia or pulmonary hemorrhage are discovered the diagnosis becomes assured.

Cough and expectoration, especially the latter, are not necessary adjuncts of early pulmonary disease. When first manifest, cough is apt to be hacking, dry, paroxysmal in type and associated with little if any expectoration. As the disease process advances, expectoration appears, the sputum at first being mucoid in character, later becoming muco-purulent and finally distinctly purulent in type. Tubercle bacilli are as a rule absent in the sputum of early cases, as they do not make their appearance until breaking down of pulmonary tissue has taken place. In fact the very absence of bacteria, particularly when associated with the presence of a large number of mono-nuclear cells in the sputum of an individual showing

slight afternoon temperature above the normal is strong presumptive evidence of tuberculous trouble. Again the manner of onset of cough and expectoration are suggestive. Many individuals suffer from attacks of acute illness which start as an infection of the upper respiratory passages associated with coryza and subsequently are followed by a diffuse bronchitis with cough and profuse expectoration over a limited period of time. The tuberculous individual however, usually begins to cough and expectorate without a previous "cold in the head" and the observing patient will frequently make mention of this peculiarity of onset at his first visit.

Reference to the physical signs of early pulmonary tuberculosis has been purposely omitted. Volumes might be written on this subject, most of which would not be worth the paper used. To describe slight changes in the normal breath sounds in such a manner as to convey a uniform impression of their character to others is a most difficult task. Suffice it to say that the physician who insists upon the presence of rales before arriving at a diagnosis of active tuberculosis is led into grave error. It is true that localized rales at one apex are the earliest physical signs, still rales are notoriously evanescent in character, heard at one time and not at another. They are of slight importance compared to the changes in the fundamental breath sounds, such as harsh inspiratory murmur, prolonged expiration at one apex, or localized cog-wheel breathing which represent fixed and definite changes which may be observed in a given area at any time and which when associated with an afternoon temperature of 99 degrees or above, justify a diagnosis of active tuberculosis.

Finally, it is not the purpose of this paper to enter into a discussion concerning the merits of tuberculin as an adjunct in the diagnosis of pulmonary tuberculosis, except to reiterate that the von Pirquet skin test whether positive or negative in its results is of no value whatever in the diagnosis of tuberculous disease after infancy and that its future use in adults for this purpose should be abandoned.

To sum up briefly the facts which would lead to a diagnosis of early pulmonary tuberculosis may be tabulated as follows:

HISTORICAL FACTS SUGGESTIVE OF POSSIBLE TUBERCULOUS DISEASE BEFORE THE TIME OF EXAMINATION.

1. Prolonged intimate association with a tuberculous individual.

2. History of pleurisy with the exception of empyema and the initial pleurisy of lobar pneumonia.

3. History of pulmonary hemorrhage.

4. History of fistula in ano.

5. Previous attacks of pneumonia not frankly lobar in type, particularly when recurrent.

6. Frequent and prolonged attacks of "grippe" associated with cough and expectoration and profound prostration.

DEVIATIONS FROM NORMAL INDICATIVE OF ACTIVE PULMONARY DISEASE.

1. Quantitative deviations.

- (a) Instability of body temperature.

- (b) Instability of pulse rate.

- (c) Increase of fatigue sense.

- (d) Loss of body weight.

- (e) Unexplained and moderate anemia.

- (f) Low blood pressure.

2. Qualitative deviations.

- (a) Pleurisy.

- (b) Pulmonary hemorrhage.

- (c) Chronic cough and expectoration.

- (d) Physical signs of disease of the lungs.

WHY TUBERCULOSIS IN CHILDHOOD IS IMPORTANT.

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There have been since 1900 two highly important developments in the crusade against the great white plague:

1. The powerful voluntary organization which is now conducted by laymen, under medical direction, doing educational and relief work in tuberculosis. This is the greatest popular movement of the sort the world ever saw and with wise co-operation on the part of the medical profession, will surely influence all public health propaganda for good.

2. The recognition of the importance of the age of childhood in combatting this infection. The von Pirquet skin reaction which enabled us to recognize latent infections by a simple and painless procedure, was the beginning of the investigation of this phase of the question. Some of the conclusions arrived at in these studies will answer the question of our title.

In the first place it was thoroughly demonstrated that tuberculous infection is almost universal among children who have reached the age of puberty. Hamburger's conclusions are as follows:

1. The demonstrable tuberculous infection in large numbers of living children increases with each year of age.

2. At puberty almost all children of the poorer classes have already been infected by the tubercle bacillus.

These conclusions were fully confirmed later by post mortem studies in many parts of the world. One must believe then, that this is the most common of all diseases in childhood.

That this universal infection leads to the most terrible fact of the whole problem is undoubted. The fact is: "For youth and early manhood and womanhood (15 to 29 years of age) one third (33.2%) of all the deaths are due to tuberculosis in some of its forms." (U. S. Census).

One must lay especial emphasis here upon the distinction between tuberculous infection and tuberculous disease. The one of course must always precede the other, and, once lodged, tuberculous infection may remain latent for years, to become clinically active only when the defensive powers of the body are for some reason, exhausted.

THE CLINICAL PROBLEM.

The recognition of tuberculosis of the bones and of the cervical glands has long been mastered by the surgeons. These cases, however, we now know are greatly outnumbered by those children who suffer from the disease located in the chest. Here the mediastinal lymph glands, so-called bronchial, and peri-bronchial glands, are highly important structures. The respiratory mode of infection seems the most frequent and the infective agent lodges and grows somewhere along the respiratory tract, usually near the division of a bronchus or bronchiole. From here, however, its spread is to the neighboring lymph-nodes by reason of the action of the defensive agencies of the tissues. Here the process may be arrested, or may continue freely, in which case symptoms soon appear.

The early recognition of these symptoms is highly important. Prognosis depends very largely on this. While spontaneous recovery is frequent in childhood without recognition of the condition, one cannot escape the belief that from this class comes that dreadful tuberculosis mortality in the ages of 15 to 30. Kept latent during the active and healthful life of childhood, the infection appears as the dread disease when the burdens of adult life are assumed.

The clinical problem then is to recognize these early infections in childhood, to treat

them vigorously, and to teach the hygienic principles upon which we must largely depend to hold the disease in check.

INFANCY.

So susceptible are infants to this infection, and so universally fatal are the results, that it seems little short of criminal to expose an infant to the dangers of residence in the same house with an expectorating case.

Fortunately we have in the von Pirquet skin reaction, a test of great usefulness for this age. In any illness following exposure; and in nutritional defects or chest disease without obvious cause, a von Pirquet should always be made. Up to the age of three years, a positive result is sufficient clinical evidence of tuberculous disease. A negative result may occur in the presence of tuberculous infection if a severe tuberculous process is present or if some acute infection, such as measles is present in the incubation stage. The outlook in infancy is certainly bad. Sixty-seven per cent. of all cases of tuberculosis meningitis die under five years of age, and about 45 per cent. of infants who die from tuberculosis, develop terminal meningeal symptoms. Before no infection at present does the medical attendant stand more helpless than when confronted with tuberculous meningitis.

CHILDHOOD.

After the age of three years the von Pirquet reaction is less valuable but still of no inconsiderable import. The diagnosis, however, must be confirmed by other signs and symptoms. These are both (1) constitutional and (2) local.

1. Malnutrition, failure to gain in weight; lassitude, pallor, loss of appetite, irritability; irregular temperature, daily range abnormal; increased rate of pulse; anemia. These are common to many other forms of illness. When present and persistent without obvious cause they should lead promptly to a thorough examination of the chest.

2. Cough without evident cause. Evidence of increased mediastinal density and intrathoracic pressure; cervical glands which can be felt enlarged down to the clavicle are almost certain to lead to more enlarged intrathoracic glands. In later cases of course there are the usual signs of pulmonary involvement. The symptomatology of these later cases is much too involved to discuss here. It varies from the purely miliary type to a frank pneumonic process.

A great aid to diagnosis is to be found in an X-Ray of the chest taken and interpreted by an expert.

SUMMARY.

To recapitulate, then, this disease is important in childhood, because of its wide prevalence and fatal issue in later life. Its study is important also because its recognition is often not easy. In this respect the following points should be borne in mind:

1. History and exposure to infection.
2. Constitutional symptoms which persist without evident cause.
3. X-Ray of chest.
4. Von Pirquet skin reaction.
5. Local signs in chest.

David Whitney Building.

TUBERCULOSIS OF THE KIDNEYS.*

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There is probably no condition in surgery which has had a more thorough overhauling during the past fifteen or twenty years than the study of tuberculosis of the kidneys, as practically all our present day knowledge of that condition has been brought out during that period. However, during the early years of the 19th Century, a number of isolated clinical studies and autopsy reports of tuberculous kidneys were made. Until about 1885, it was the general opinion that tuberculosis of the kidneys was an ascending condition which began in the bladder or genital organs and involved the kidney by extension up the ureter. To-day Steinthal's theory, which he advanced in 1885, that the kidney is infected through the blood system is now generally accepted and there is no doubt that the disease spreads down the urinary tract as was suggested by Baumgarten.

Simon demonstrated in 1869 that one kidney could be removed and the remaining kidney carry on the necessary function providing it was a healthy kidney. Soon after this operations on tuberculous kidneys followed. But the operative procedures were indifferent and half-hearted until the early nineties when very marvelous progress in surgical treatment of this condition was made.

Tuberculosis of the kidneys is by no means so rare a disease as was formerly supposed. About 10 per cent. of those dying from tuberculosis show renal involvement. The disease

is found most frequently in adults between the ages of twenty and forty and affects both sexes. In 10 per cent. of the cases of tuberculosis of the kidneys, the affection is bilateral. At the beginning, however, it is almost exclusively unilateral. It is a chronic disease and unless interrupted by surgical treatment may run a course of many years. The average symptomatic period is three to five years.

The onset of the disease is so insidious, and the symptoms referable to the kidney are so slight, that attention, as a rule, is not called to the kidney as a source of the persistent pyuria or vesical irritability until the disease is well advanced. Some patients complain of dull aching pain in the region of the affected kidney. Occasionally, the kidney on the opposite side gives rise to some symptoms due to the compensatory congestion and hypertrophy. The affected kidney is usually enlarged and frequently tender. It is frequently the case, however, that the sound kidney may be as much enlarged and as tender as the diseased one. The usual symptoms of inflammatory disease of the kidney are lacking unless the ureter is blocked or there is an associated calculus disease. In the later stages we have chills, sweats, fever, loss of weight, etc. It is striking how, with severe renal tuberculosis, the general condition of the patient may be unaffected. *Frequent absence* of local symptoms referable to the kidney is a striking characteristic of renal tuberculosis. Marked vesical disturbance, as frequent and painful urination, is the most common and most characteristic symptom of renal tuberculosis. It is this vesical irritability, as either the sole or the predominating symptom, in the clinical picture, which so frequently leads us astray and involves the patient in a long course of painful bladder treatments which yield no results. About 90 per cent. of all cases present this as the initial symptom.

Some cases show a marked polyuria. The urine is pale, of low specific gravity, acid reaction and contains albumen in proportion to the kidney changes and the amount of pus present. Hematuria is one of the less frequent symptoms, although it may be the initial symptom. The cardinal symptoms of renal tuberculosis are frequent and painful urination, long continued pyuria which resists all local treatment of the bladder, a contracted sensitive bladder and the finding of the tubercle bacilli in the urine.

A thorough clinical history is of the highest importance in arriving at a correct diagnosis. Every patient complaining of bladder symptoms

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should be carefully questioned with the possibility of renal tuberculosis in mind.

In those cases with blood, pus, and tubercle bacilli in the urine the diagnosis is comparatively easy but it may be extremely difficult in the early cases where none of these abnormal elements can be found. A persisting, chronic acid cystitis which resists all ordinary medical treatment is highly suggestive of renal tuberculosis, especially when there is evidence of tuberculosis in some other part of the body. The presence of nodular enlargement of the epididymis or prostate is of special value in the physical examination and should be looked for in every case of irritability of the bladder in the male. The ureter may be found to be enlarged upon rectal or vaginal examination. In the diagnosis, the examination of the urine is of great importance. The examination for tubercle bacilli, when performed carefully, gives positive results in about 90 per cent. of all cases. If, however, with a case of persistent irritability of the bladder and pyuria, the tubercle bacillus cannot be found microscopically in a catheterized specimen, a guinea-pig should be inoculated with urinary sediment. Particularly in early infections is the guinea-pig test practically infallible, and it is unfortunate that because of the expense, technical difficulties, and length of time involved, the method is not now more available.

When a tuberculous infection of the urinary tract has been positively diagnosed, it remains to find out which side is affected and how far the disease has spread. This can only be done by cystoscopy and catheterization of the ureters. Urine separators and segregators are unreliable. By cystoscopy, the exact condition of the bladder can be obtained and often a decision may be made as to which kidney is diseased from the condition of the orifices of the ureters and their surroundings. Some observations have been made, however, which show a diseased orifice of the ureter on the healthy side of the bladder. Which side is diseased, to what degree the diseased side is affected, and whether the function of the sound side is normal or to what degree it is functioning, can be determined from the microscopical examination of the urine obtained by ureteral catheterization and a functional diagnosis of the kidney.

The prognosis of renal tuberculosis in cases not operated is bad, and, in those operated depends upon the extent of the involvement, the length of time the disease has existed before

operation and the functional capacity of the remaining kidney.

Surgery offers the only satisfactory means of treating renal tuberculosis and operative measures should be carried out as soon as a positive and complete diagnosis is made. Attempts have been made to replace surgical treatment by use of tuberculin, anti-tuberculous serums and immunizing bodies. But there are only a few published cases of recovery under such methods, and these are for the most part unreliable, for we know that kidney tuberculosis is subject to remissions without any treatment at all. Isreal states that tuberculin is of no value whatever in the treatment of renal tuberculosis, and should not be used even in very earliest stages of the infection. While Murphy on the other hand says, "if patients, in the early stages of tuberculosis of the kidney, where you have no obstruction to the ureter and drainage is good, are put under good hygienic and properly administered tuberculin treatment, so there can be a complete repair of the disease and for an indefinite period of time, they may become perfectly well." Kummel, Isreal, Casper, Kelly, Mayo and others have reported cases which have been operated after they were pronounced cured by some of these methods. However, to obtain the best results, I believe that medicinal treatment, in the shape of tuberculin and hygienic and climatic treatment should be combined with the surgical treatment, as a prophylactic measure, and not with the hope of obtaining a cure. Every case of unilateral tuberculosis should be dealt with by nephrectomy as soon as the other kidney has been found capable of carrying on the renal function. Even when one kidney is extensively involved, and the other kidney only slightly diseased, as shown by the functional tests, nephrectomy of the most seriously affected kidney may be undertaken with much hope for success, as it has been shown that kidneys which functionate moderately well are apt to improve after removal of the more seriously diseased kidney, because greater demands are made on their functional capacity and the toxic effect of the diseased kidney is removed. However, if the second kidney does not come up to the requirements nephrotomy and drainage of the abscess cavities is indicated.

Isreal has reported fifty cases in which nephrectomy has been done for bilateral tuberculosis and gives the following indications for operation in the latter: (1) "When more good can be expected from the removal of an in-

fectious focus than harm from the loss of the parenchyma; as may occur in severe caseous degeneration or suppuration. (2) When there is a vital indication from repeated severe hemorrhage. (3) In complicated cases where there is severe pain which cannot be remedied otherwise." This coincides with the opinions of most men at the present time.

The primary mortality after nephrectomy for tuberculosis is about 3 per cent. and the fatal cases are mostly complicated with pneumonia, myocarditis, embolism or meningitis. Braash, in a recent paper, gave the results obtained in 203 cases operated upon at the Mayo clinic in which the primary mortality was 2.9 per cent. The secondary mortality in about 15 per cent., and death is usually caused by pulmonary involvement.

After operative treatment about 80 per cent. of the patients live many years and a large percentage are permanently cured. The local influence of nephrectomy upon the bladder and urine depends upon the degree to which the disease has advanced at the time of operation. Pus and bacilli in the urine disappears very slowly and the vesical trouble also disappears slowly.

After the tuberculosis has been cured, nephrectomized patients are as resistant as those with both kidneys normal, provided they are not exposed to danger from exhaustion and over exertion.

Kümmel, in a recent article in the *Journal of the American Medical Association*, gave a summary of his researches of the later fate of patients after nephrectomy for renal tuberculosis. In 386 patients there was a permanent cure in 80 per cent. after two years. Patients with only one kidney, as a rule, passed through pregnancy without disturbance. They tolerate morphine, ether anesthesia and serums but bear chloral and veronal badly.

Statistics show that great progress has been made every year in our modern methods of functional examination and in the diagnosis, operative indications, and prognosis of renal tuberculosis.

THE WORKSHOP AND STORES IN THE SPREAD OF TUBERCULOSIS.

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The dwelling place of the consumptive is the richest granary of tuberculosis. It is made so because the consumptive spends most of his

time in it during the contagious period of the disease; in fact, the last few months are almost entirely spent in the dwelling. On account of the long duration of consumption, however, other places than the dwelling likewise become rich granaries of the bacillus. The foremost are the places where the consumptive works, be it in the workshop or store. It would be difficult to estimate the average length of time which the consumptive devotes to his business before giving up. It is usually much longer than is generally supposed. With some it is nearly a lifetime. It is true, consumption is not contagious during the entire working period. Often there are intervals of months or even years during which no broken-down lung tissue is expelled. However, in every case there may be months at a time following a cold or an attack of softening during which the patient works and gives off contagion. After cavity formation contagion is continuous. The workshop does not gather up tubercular matter as rapidly as a dwelling because the consumptive spends less time in the work place and also while in it, it is less productive of tubercular matter. In the end it surely becomes contaminated.

There is less restraint in the workshop than in the home, because, as a rule, the workman spits where he pleases in the workshop and the dirtier the place is, the more careless he becomes as to where he spits. The dirt and tubercular matter dry up and are ground up into fine dust. This dust is always suspended in the atmosphere while there is activity in the shop or store and deposited upon everything when work is interrupted. Fellow workmen inhale the tubercular laden dust with every breath and carry it into their stomachs when eating their lunch. Therefore the condition for the implantation of the tubercular bacillus are nearly as good in the workshop or store as it is in the house. The only difference is, the exposure is not so continuous or the contagion so intense. The workshop exposure is usually eight hours out of every twenty-four; in the house from sixteen hours and sometimes the entire twenty-four hours. The time during which the greatest amount of expectoration takes place, is in the morning and evening and these hours are usually spent in the home. Implantation of the tubercular bacillus in the workshop is facilitated very greatly by poor ventilation, because workshops are built for business and not for the health and welfare of the employes.

The amount of cubic air space to the work-

man for health while indoors is not considered and no provision is made for efficient ventilation except in the most recently built factories which we are glad to note, are building factories where the health of the employe is taken into consideration. Employers of labor are beginning to realize that a workman, to produce the maximum amount of work, must be in good health, and no workman can produce, for his employer, all there is in him if his working environment is not right. In some kinds of work open windows are not permitted because this would interfere with good work. This applies especially to some kinds of painting, varnishing, and cigar making, and this, in my opinion, accounts, in a large measure, for the great number of cigar makers who die of tuberculosis.

Rebreathed air is poisonous and interferes with nutrition. It is, therefore, good soil for the tubercle bacillus and its associates. It works along the same line of destruction.

Workshops into which tuberculosis has once been introduced have their victims continuously at regular intervals. As one case ends another begins. Usually there is a long list of deaths marked up against them.

Workshops in which the occupation sets up a very irritating dust, such as steel filings, pulverized stone, etc., usually have a very high death rate from consumption because the irritation sets up in the delicate mucus membrane, prepares the way for the admission of tubercle bacilli into the bronchial lymphatic glands.

I now come to the spread of tuberculosis in the store and in this, I wish to show you the cause and reason why that in our large cities the death rate among clerks and other employes, in the large mercantile establishments, is so great.

Wherever a consumptive is during the contagious period of his disease, there is an environment of contagion. The capacity of this environment for implantation depends upon the habits of the consumptive and the length of time of contact and the sanitary surroundings and management of the place. Should the habits of the consumptive be in strict accord with the teachings of preventive medicine, then the environments would remain sterile, no difference what the length of exposure or the sanitary management of the place may be. In proportion as these habits deviate from the teaching of science, lengths of contact and sanitary management become controlling factors. How much time a consumptive with incorrect habits must spend in a place to create an en-

vironment competent to emplant the tubercle bacillus cannot be determined with exactness. Other factors such as the amount of tubercular matter given off, the susceptibility of those exposed, and the sanitary condition of the environment, enter into the matter. It may be said, however, with a fair degree of positiveness, that it must be a considerable time—momentary stay in a place, no difference what the habits or the sanitary conditions may be, will not produce such an environment. Neither can it be determined with accuracy what part the sanitary conditions play in the establishment of a fertile environment. In a general way, it may be said, however, that good sanitation proportionately neutralizes incorrect habits and lessens the time necessary for implantation.

These modifying factors of contagious environment must be kept in mind when studying stores in the spread of consumption, because in stores we not only have fellow employes to consider, but also the customers of that store. In nearly all large stores there are consumptives in all stages of the disease, from a mere implantation to a large cavity variety at which the disease constantly is contagious. Probably 25 per cent. of all store employes have an implantation of the tubercle bacillus. Ventilation is bad and the air is constantly rebreathed. Many employes are badly nourished and are in a receptive condition. The one redeeming feature is that the stores are large and have to be kept clean. The constant presence of many persons, to some extent, enforces habits of cleanliness and refined manners. The spread of tuberculosis in stores is chiefly from employe to employe, because a consumptive may work near a non-consumptive and so cause a constant exposure.

Fertile environment probably does not extend beyond the counter of the consumptive, and even this lessens in proportion to the distance away from the place where the consumptive stands. Purchasers probably do not run any risk while making the purchase. However intense, the contagion exposure is too short to give implantation. Tuberculosis requires a long exposure for implantation. The real danger to the purchaser lies in the goods which are purchased and taken into the home, because an unclean consumptive contaminates everything which he handles. Goods handled by such a consumptive may become smeared with a good deal of tubercular matter. Even in goods sent home, the danger is not great unless, perhaps, with food which is eaten in the raw state.

Other things would not be liable to convey enough bacilli to give an implantation except to people of a very strong predisposition.

The kind of stores from which there is the most danger to the purchaser, is the candy stores, fruit stores and grocery stores; even these are not so dangerous unless purchases are made from the same stock for a considerable length of time.

THE HYGIENIC TREATMENT OF TUBERCULOSIS.

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ALPENA, MICHIGAN.

On the 7th of June 1 received a letter from Dr. V. C. Vaughan, Jr. of Detroit asking me to contribute a short and concise article on the "Hygienic Treatment of Tuberculosis." The doctor also asked me to "as far as possible avoid matter of interest only to the specialist in tuberculosis."

The hygienic treatment of the disease in question occupies so large a portion of the field and has been covered so exhaustively so many times by eminent practitioners the world over, that one must confine himself in a short article, to hygiene in its most constricted sense.

There is something very significant to me in Dr. Vaughan's words "as far as possible to avoid matter of interest only to the specialist," because it augers (Dr. Vaughan being an eminent specialist himself) the important possibility of specialists and general practitioners coming closer together to the very great advantage of themselves and to the untold advantage of their patients.

For some reason or other my experience in the treatment of this disease has been much more largely among women and girls than among boys and men. It may be that we have a larger percentage of the former affected in this immediate vicinity than is found in other places. At any rate, the most of what I shall have to say will be along the line of treating women and girls.

I cannot go farther without stating a conviction that I have, borne out by my own experience; viz., that tuberculosis is almost always preceded by malnutrition from one cause or another or some affection either functional or organic. Bearing this in mind, the hygienic, or any other treatment, must be directed with the hope of removing the primary cause or disease.

It is unnecessary in this article to indicate

what these primary causes or diseases might be; and I do not mean the infection itself, but that which prepared the soil for the ready propagation of the seed. I will mention a few lesions, however, because some of them have only recently come into prominence as real causative factors. Any distressing affection of the urinary or alimentary tracts will be noted and spoken of by the patient, and will call for immediate attention; but the genital tract will scarcely ever be alluded to unless the physician has reason to suspect one or more of the many troubles which may arise there, and goes carefully but minutely into details. The condition of the oral cavity is of the greatest importance in many cases, and may be overlooked. Here bacteria are often at work in myriads, lowering the vitality. Infections are taking place, increasing the temperature and introducing dangerous toxins. Even advanced pyorrhea alveolaris may be present and must have attention. Each physician will find these things out for himself before commencing treatment. An abundance of fresh and pure air has been heralded to such an extent that even the laity consider it as paramount. With the purity of the air I have no fault to find, but I have seen patients time and again exposed to air that might easily be considered, if a little sound thought were given the subject, as being considerably too fresh. The air should be pure, in great abundance, kept slightly in motion by some means and, perhaps, more important than all, contain the proper proportion of humidity.

Baths, I have found, frequently of service. Carried to the point of cleanliness, they are absolutely essential. If the temperature rises above 101 the best bath is equal parts of alcohol and very hot water, never cold water. The method I use is for the attendant to take the palm of the hand full and simply spilling this with a rubbing motion over as large a surface as possible, then refill the hand a sufficient number of times to cover the entire body as quickly as can be done without undue haste or excitement. Soon the temperature will be materially reduced without any shock that will do other than stimulate the nervous system.

The power of the physician to impress upon his patient the all-important fact, (and sometimes whether it be a fact or not, perhaps, we had better call it an impression), that she is going to get well, is of the greatest importance. For, despite the opinions of the laity and many physicians, to the contrary, tuberculosis is not a painless, cheerful disease. It is a melancholic,

distressing affection of long duration at best, and in a majority of cases, most witheringly discouraging; but it *can* be cured and is being cured every day.

If somebody who knew how would write the psychological treatment of tuberculosis they would be conferring a great boon on humanity. For in my experience psychology is a powerful therapeutic agent.

I am not quite sure that I am holding fast to the hygienic treatment of tuberculosis for the word hygiene, after all, means so much and so little that I, at any rate, must admit I am not quite sure what Dr. Vaughan asked for.

In the majority of cases that have come under my care I have found the pectoral muscles not only atrophied but constricted. I am speaking now of cases where the musculature in general is nearly normal, and I have found that judicious massaging in the shape of gentle friction, a gentle kneading with the thumb and three fingers of the hand, this combined with light pressure and a rotary but stationery movement of the same three fingers; doing these three movements alternately over a period of from several minutes to half an hour, relieves the chest constriction, helps to stop the cough, develops the bust (which, by the way, has a powerful psychological effect on the average female), and stops many annoying pains that are mostly attributed, by the patient, to "pains in the lungs." If the larynx is involved, the same gentle massaging is of great benefit carried out practically over the entire neck. If the patient is emaciated this same treatment over the limbs and body is of great value. I have a patient now under my care who was troubled with an obstinate insomnia. I didn't wish to disturb an already irritable stomach by sedatives or narcotics; nor did I care to take the chance of depending on hypnotics to produce the rest that was absolutely essential in her case. Her attendant readily became an adept in what I desired done and massaged the patient, in the manner described, for half an hour or more just at bedtime. In less than a week she commenced falling asleep before the massage was completed. Now, for over three months, she has slept soundly every night. Her chest has increased in size to such proportions as to be exceedingly pleasing to her and, apart from all other important considerations, has a markedly beneficial effect from a psychological standpoint. Menstruation too has appeared in the last two months and prior to that time there had been no epoch of the kind for about five months.

In this case both lungs are involved and our state bacteriologist found numerous tubercle bacilli and pus cells in the sputum. There is no question in my mind but that massaging of the chest, in the manner indicated, with the results which are so apparent to the patient, is a distinct benefit, no matter whether it be termed strictly hygienic or not.

I give my patients all the food they can eat, not all they can be made to eat. Alcohol in every form, except in the valuable way in which I have stated, is interdicted "first, last, and all the time."

I have adopted a simple and efficient method of taking care of the sputum so that there is little danger to the attendants or family from that source.

It must be remembered that the general practitioner has not all the modern appliances so readily attainable in the large cities or sanatoriums.

I have the patient get a roll of ordinary toilet paper tear off a sheet or two, expectorate into it; put it immediately into a small paper bag or sack such as grocers use. Then, at frequent intervals, destroy the sack and contents by burning.

The recovery of a well-known case of tuberculosis in any community or neighborhood is a wonderful factor—from its educational and psychological influence—in the recovery of others; and this influence extends frequently to even remote places through correspondence among friends and otherwise.

Pleasant environment cannot be overestimated. The bright star of Hope should ever be kept shining before the patient and this star can be multiplied into many stars through the teachings and advice of a resourceful physician, backed up by attendants with convictions instilled into their minds, or if necessity demands, pounded in, until they are made to understand that they are fighting for a human life, that they are fighting a host of enemies that cannot be destroyed unless they are overpowered by greater hosts inimical to the existence of those enemies. Procrastination, indecision, doubt, discouragement, or the least wavering, have no place in such cases. Hope will not kill a single tubercle bacilli but it can be the straw in the balance. It might be the lightning up of a new inspiration that might kindle a tiny fire that could easily spread and drive the myriad enemies from their trenches and assist the flagging powers of nature to destroy them.

Hope inspires to better things
Hope comes wafted in on wings,
Wings that inspirations bring
Dead'ning many a bitter sting.
Inspirations help evolve
Knotty problems hard to solve;
But these problems all give way
To resources of our day:
Study, patience, faith, and grit
Backed by knowledge, tinged with wit,
A look of confidence, a smile
Will drive discouragement a mile.
And this will help the appetite,
Providing strength to wage the fight.
Warmth that's sifted from the sun
—All essential every one—
Hygiene, practiced as above,
Combined with food and faith and love,
Mixed with medicine, safe and pure,
If used in time, will surely cure.

THE EFFICIENCY OF THE MODERN
TUBERCULOSIS CLINIC.

The two essential elements in the campaign against tuberculosis among the poor are the sanitarium or hospital and the efficient tuberculosis clinic or extramural department. The chief functions of the hospital are the care of advanced cases which cannot receive proper attention at home and the training of early and moderately advanced cases both with regard to the mode of life necessary to their own welfare and with regard to the means employed to prevent the spread of infection to others. However the usefulness of such an institution is definitely limited by the number of beds available. On the other hand there is no limit to the number of cases which can be kept under supervision through the efforts of an efficient clinic. Every consumptive among the poor who has had the advantage of sanitarium training should subsequently be placed under clinic supervision. In this way only may the too frequently temporary benefits of sanitarium life become permanent.

The modern tuberculosis clinic differs materially from the clinic of ten years ago. Formerly the tuberculosis clinic was simply a place where a physician, usually a volunteer without pay, met patients all in the advanced stage of the disease and prescribed medicine. Occasionally the patient was also given some advice concerning the value of good food, and change of climate, the absolutely unattainable to one in

his financial state. Between clinic visits no supervision of patients was attempted and after a limited number of calls the patient subsequently failed to reappear. One must admit that such a clinic was largely a waste of time for all parties concerned.

It soon became apparent that to be effective in the slightest degree the supervision could not be limited to advice and treatment given solely within the four walls of the clinic room. It was essential for the clinic to reach out and become cognizant of the home surroundings of each individual case. For this purpose trained nurses were employed whose duty it was (1) To be in attendance at the clinic during clinic hours. (2) To visit all clinic patients in their homes and to see that the best available means were employed for the hygienic treatment of the individual case. (3) To instruct the patient and his associates with the means employed to prevent the spread of infection to others. (4) To urge the advisability of the examination of all the members of a household in which a case of tuberculosis exists regardless of the fact that they may appear to be in perfect health. (5) To investigate cases who have returned to their homes from the sanitarium and to impress them with the necessity of remaining under clinic supervision. (6) To see that proper disinfection of the premises is carried out after the death or removal of a tuberculous patient.

The following table taken from the report of the Board of Health Tuberculosis Clinic of one of our Michigan cities would seem to demonstrate the comparative efficiency of the above described clinic supervision:

	MALE		FEMALE		TOTAL
	Over 14	Under 14	Over 14	Under 14	
Early.....	68 16.54	72 88.88%	84 38.61	61 82.43%	285 36.21%
Moderately					
Adv.	152 37.	3 .7%	56 25.34	9 12.16%	220 25.28%
Advanced	191 46.5	6 7.2	81 36.65	4 5.5	282 35.5%
Total	411	81	221	74	787

The inspection of the above table reveals the important fact that the total percentage of early cases under observation exceeds that of the moderately advanced and practically coincides with the percentage of advanced cases. This fact would seem to demonstrate that among these 787 tuberculous individuals there has been obtained a comparatively accurate supervision of all infected individuals rather than a supervision limited entirely to those manifestly in ill health as the result of their disease process. Such results can be obtained, how-

ever, only through the examination of all individuals regardless of their apparent health who have been intimately exposed to sources of infection over considerable periods of time.

RESULTS OBTAINABLE FROM TUBERCULOSIS DAY EXAMINATIONS.

It is not expected that a large number of early cases will be diagnosed as positively tuberculous at the Tuberculosis Day examination. We believe that every member of our State Society is competent to arrive at a probable diagnosis of early tuberculosis after several examinations of the patient over a considerable period of time. The specialist on this disease never arrives at an absolute conclusion with regard to an early case from the results based on a single examination. We expect that all persons applying who present gross pathological changes in the lungs, such as cavity formation and extensive consolidation, will be pronounced tuberculous. The examining physician should acquaint persons who give a history of attacks of pleurisy or pulmonary hemorrhage in the past with information concerning the probable

tuberculous character of the process from which they suffered. Such individuals should be advised that it is to their best interest that they present themselves before a physician at least at six months intervals for a thorough examination of the chest, or avail themselves of the opportunity afforded in the local clinic established for this purpose.

Individuals with chronic cough and expectoration should be acquainted with the fact that these symptoms represent a deviation from the normal which can only be due to the presence of a disease process of some nature. As the most common cause for cough and expectoration before middle age is infection with the tubercle bacillus, such individuals should be advised to collect a specimen of their sputum for the purpose of examination, such examination to be conducted locally if possible, otherwise a specimen may be forwarded to the laboratory of the State Board of Health at Lansing or in the upper peninsula. The physician should also impress upon these individuals that sputum represents a waste product which should be removed from the body, and that the same care should be shown with regard to its disposal as is taken with other body excrement.

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OF THE

Clinical Society of the University of Michigan

Stated Meeting, June 14, 1915

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

CANCERS OF THE SKIN.

UDO J. WILE, M.D.

ANN ARBOR, MICHIGAN.

Dr. Cummings has asked me to open the discussion in this symposium on cancer. Cancer as it occurs in the skin presents an entirely different clinical picture from cancer as it occurs in other portions of the body. I may be pardoned if I digress sufficiently long to justify a nomenclature which I insist upon, at least in the discussion of cancer of the skin. Cancer in the skin occurs in the form of true carcinoma, malignant degeneration of glandular structure which is excessively rare, and much more frequently a degeneration of the surface epithelium. These two processes are distinctly different in their pathology, course and etiology. For that reason, I think one is justified in speaking of degeneration of the surface epithelium as epithelioma, a separate class of carcinoma, and restricting the term carcinoma as it occurs in the skin, to malignant degeneration of the sebaceous and sweat glands.

Considering first the etiology of cancer of the skin, I think we have at least a great deal more to offer than is offered in the etiology of carcinoma elsewhere. Certain very definite factors are known, if not as the ultimate cause, certainly as predisposing factors. First, it is known, for example, that carcinoma as it occurs on the skin is very apt to affect those who are exposed to the outside elements. It is particularly common therefore in country districts. In a very large service in New York City I saw but two cases of cancer of the skin in over 6,000 cases inside of two or three years. Here I think in the first year, in a clinic one-sixth that size there were forty-eight cases of carcinoma of the skin, mostly in farmers. It is particularly common in seamen, outside workers and coach-

men. At first glance it is rather difficult to understand this. When one considers, however, the factors which enter into malignant degenerations in the skin, particularly the vast number of conditions which are known as predisposing lesions, it is extremely easy to understand how the sun and wind should be predisposing factors. True epithelioma of the skin very seldom occurs on the unbroken horny epidermis. It almost invariably has a history of some pre-epitheliomatous formation. That is, it most always takes its source from an already disordered focus of keratinization. Together with senility, in those who have been subjected to the sun, there occur on the skin localized disorders or keratoses. Simple senile keratoses occurring as frequently as they do on the hands and face, represent foci from which carcinoma can very readily develop. If one examines under the microscope these senile changes, they are found to be simple disordered horny cells, in which the nucleus is still present, (the finished horn cell being a non-nucleated cell). In other words, the process of keratinization is so deranged that the horn cell is cast off in an unfinished condition. Such a lesion presents a slight focus for trauma. Occurring on the face, washing or shaving are very apt to cause an injury to this pre-epitheliomatous tissue. At some time the patient usually notices in the course of an ordinary keratosis that the crust spontaneously drops off. When that occurs, even before epithelioma can be demonstrated clinically, malignant degeneration has already taken place.

The same thing, I think, holds true of the epithelioma as it occurs in the mucocutaneous surfaces, particularly on the lip and just as frequently on the tongue. Here we have as a pre-epitheliomatous condition disorders of keratinization almost invariably, the most com-

mon being the leukoplakia. This is almost always the result of syphilis, a result of constantly recurring mucous patches, lesions which untreated lead to a local disorder of keratinization, a heaping up on the tongue of the same kind of unfinished horn cell. This is always potentially malignant.

In connection with keratoses and the reason for their becoming malignant on the skin, a very interesting theory having to do with radioactivity has been formulated. It is a well known fact that the same changes that the sun will cause in the skin by prolonged exposure can be caused by radio active substances. That is, by prolonged X-Ray exposure of the normal skin, and particularly in a blond individual in whom the defenses of the organism by pigment are relatively lacking, there occur keratoses. If the irritating factor of the radioactive substances is carried further these keratoses by simple prolonged exposure can undergo malignant degeneration.

A number of years ago I was interested in the question of the cancer which is supposed to arise from the ingestion of arsenic. Such patients develop pigmentation, keratoses on the palm, backs of the hands and on the feet and face. Occasionally such keratoses undergo malignant degeneration and usually are excessively malignant as compared with the epitheliomata on the other portions of the skin. How can one reconcile the malignant degeneration that occurs in keratoses from the ingestion of arsenic with the idea of the light factor as it occurs in the epithelium from keratoses of the skin? It has been suggested, and very properly, I think, that arsenic is a protoplasmic irritant. It enters the horn cell, can be demonstrated microchemically and chemically, and it sensitizes the individual horn cell to light. Such a keratosis is made more sensitive to the same factors which are present in the sun's rays in an individual who has not ingested arsenic. It has been suggested that this simple sensitization by the arsenic in the horn cell is sufficient to cause it to react more intensively to sunlight.

Epithelioma of the skin differs very markedly also from carcinoma in the relatively benign course that it takes. The ordinary epithelioma as it occurs on the unbroken skin has an excellent prognosis.

Just a word with regard to the treatment. The cases of carcinoma of the skin that get well with one form of treatment, I think will get well with any form. These cases which resist sur-

gical measures and radioactive therapeutic measures will go bad anyway. The prognosis is directly related to the contiguity to the mucous surfaces. The carcinoma of the cheek has an excellent prognosis on the outer side of the skin. As soon as it approaches the angle of the mouth, prognosis is vastly different. The ordinary carcinoma arising from the keratosis is of the basal cell type. That same lesion spreading to a mucous surface almost invariably is transformed to a squamous carcinoma, having a very much poorer prognosis than the epithelioma of the basal cell variety.

The true carcinomata of the skin, those arising in glandular epithelium, are excessively rare. There are two main types, those arising from degeneration of cyst walls, which are locally malignant, and which have a fair prognosis, and the very much rarer carcinoma of the sweat glands and ducts, which is relatively malignant, in which metastases occur quite early. Those are deserving of mention, although they are excessively rare conditions.

For the most part then, cancer of the skin as it occurs away from mucocutaneous junctions, carries with it an excellent prognosis compared to carcinoma elsewhere. It differs very distinctly from cancer, at least so far as we know, in other parts of the body in that we have at least a very definite factor of trauma. It is very seldom indeed when an epithelioma will develop on an otherwise healthy skin unless there has been some predisposing cause such as a keratosis which has been caused to undergo degeneration, or at least has been irritated by a constantly recurring traumatic factor.

DISCUSSION.

DR. REUBEN PETERSON: I wish the doctor, in closing the discussion, would say a few words about pigmented moles.

DR. WILE: I didn't mention pigmented mole perhaps through an oversight. The pigmented mole when it undergoes malignant degeneration is commonly called melanoma. I am very glad that Dr. Peterson brought the point up because it gives me a chance of stating a view which I have had that they are not sarcomata but carcinomata. My reasons for believing that they are carcinomata rather than sarcomata lie in the histogenesis of the naevi cells from which they arise. The ordinary fleshy mole is a structure full of strands of cells underneath the epidermis. They look neither like connective tissue cells, nor do they look like epithelial cells. They look rather like endothelium. There are two theories advanced as to their histogenesis, one that they are connective tissue cells, another that they are snared off portions of the surface epithelium, fetal rests which are snared off from the epidermis during intrauterine life. Of course, a malignant

tumor arising from such a growth would necessarily be a carcinoma rather than sarcoma. On the other hand, if they are connective tissue cells, then the malignant tumor is a sarcoma. During the last week we had such a growth in our clinic, a man who had had a mole all of his life on the side of his neck, which developed very rapidly a round, level, soft, lesion definitely pedunculated, tending to have hemorrhagic points in it, and clinically, surely then a sarcoma. It was not generally malignant. It was very well encapsulated, stood out well from the surface on the epidermis, and I predicted pathologically at least, it would be a carcinoma. The pathologic report was that of a basal cell carcinoma, the least malignant of all. The best view to take of the true melanotic sarcoma is to call it a melanoma, which does not commit one to its histogenesis. It represents the most malignant of all types of cancer as it is seen on the skin.

Every pigmented mole which is blue-black particularly, which occurs in a site where it is subjected to trauma, should, I think, be removed as a precautionary measure. The ordinary pigmented flat mole which everyone of us has, the simple brownish mole, very seldom or never undergoes malignant degeneration. It is almost invariably the blue-black mole that undergoes the carcinomatous or sarcomatous degeneration.

REMARKS ON THE CLINICAL SIDE OF CARCINOMA OF THE BREAST.

C. B. G. DE NANCREDE, M.D.

ANN ARBOR, MICHIGAN.

When carelessly answering the president's request for a paper I did not mean by the title I suggested that I was going to attempt to cover the whole subject of the clinical side of carcinoma of the breast or even limit myself to carcinoma in this region. I intended to convey the idea that I would try to say something about the clinical aspects of malignant disease of the breast. What I have to offer for your consideration tonight is a few scraps that I have collected and thrown together rather loosely, and what I should have said to the president was that I would make some clinicopathologic remarks on diseases of the breast. It would be simply impossible in fifteen minutes to pretend to cover the subject adequately, even if I were competent to do so. But there are a few ideas that have stuck in my mind after some fifty years as student and practitioner. I am going to give these rather loosely correlated ideas for your consideration.

While there is much requiring most careful consideration on the clinical side of carcinoma I shall restrict my remarks to certain points regarding malignant disease of the breast, not confining myself strictly to that special histo-

logic form, which we designate by the term carcinoma for reasons too manifold and manifest to require explanation. Although unquestionable diagnosis is of paramount importance, I shall touch upon this only indirectly, as it were, because of the attitude I assume respecting treatment in doubtful cases, when the female mammary gland is concerned. Two opposite positions are taken by extremists. Certain clinicians contend that benign tumors so very rarely undergo dangerous alterations that such chances can be ignored, provided the original diagnosis is correctly made and that this can always be done, while some pathologists insist upon the "potential malignancy" of all tumors, hence claim that the only real safety is removal in all instances. The personal equation explains in part these radical differences. In the final analysis many decline to accept the conclusions of either as correct or wise; unless with so many qualifications and exceptions that the original positions are no longer tenable. The pathologists' belief is founded on the unquestioned fact that a certain number of growths presenting identical clinical symptoms with others which remain unchanged, eventually exhibit evidences of indubitable malignancy. When examined histologically these latter show in some parts a structure identical with others presenting the same primary clinical symptoms. The vast majority of these persist unchanged in their clinical course and histologic structure for a long series of years, or for a lifetime, only in rare instances changing their clinical behavior and manifesting those alterations which we term malignant. Microscopic examination explains all this, showing indeed benign, adult, normal tissues, but also areas where immature, almost embryonal tissue predominates or is alone present with the riotous, unchecked, purposeless multiplication of cells which fail to become functioning tissue cells, infiltrating and substituting the normal structures. This surely is the essence of malignancy. Therefore some contend that all tumors are potentially malignant, and should always be removed when detected. If by this is meant that low grade, possibly ill-nourished tissues, without the usual restraints of normal environment are more liable to yield to the exciting causes which determine malignant disease, I readily admit this "*potential predisposition*" but we must discriminate between this, and an actual specific tendency to malignant change, in the absence of that unknown, exciting cause which provokes the development of carcinoma

or sarcoma in perfectly normal tissues. When we compare the innumerable cases of clinically and histologically benign growths with the comparatively few which lose this benign character, we cannot subscribe to the dictum that any and every benign tumor demands prompt removal. If, on the other hand, we find that certain classes of neoplasms which remain clinically benign for long periods, yet supply us with an undue proportion of cases of "*malignant degenerations*" as compared with other classes of neoplasms which are also believed to be benign, it becomes our duty to study in what way, if any, the histologic structure of the first class differs from that of the second class, which rarely if ever undergo these untoward changes. We should then endeavor to correlate any differing clinical symptoms with these differences of structure. If after prolonged effort this proves at present impossible, it cannot be denied that it is then our duty to err on the safer, the *operative* side of therapeutics. I do not propose attempting the at present impossible task of determining the differential diagnosis of such conditions but merely suggest a tentative approach to the study of this vastly important subject. Kindly bear in mind while listening to my remarks that I am only attempting the roughest sketch.

Few will deny that a series of microscopic sections could be prepared of a traumatised mamma which would show an almost imperceptible gradation from the processes requisite to repair a trivial injury up to the border line between repair and neoplastic formation, until the point is reached where the decision from any one specimen becomes doubtful, because of abnormal mitotic figures presented by the newly formed or forming cells. Closely related to doubtful areas undoubted areas of malignancy may be detectable, while in other instances with apparently a similar propinquity the appearances may be decided to indicate benignancy by another equally competent authority, possibly by the same observer. Such a fortunate conjunction of conditions in sections from one specimen can hardly be expected, but I doubt if any observer will deny that in the course of numerous examinations of different specimens from other than undoubted neoplastic areas what I have mentioned has not at some time been observed by him.

These appearances and others have even led competent observers to explain malignancy by claiming that during the reparative or inflammatory processes, certain cells, segregated from

their fellows and removed from their restraining environment, multiply with unchecked luxuriance, and no longer controlled by normal conditions cease to have any limit placed upon their invasion and replacement of the healthy tissues. Whether this alleged lawless multiplication depends upon removal of environmental restraint, or a stimulus from some special substance overcoming normal restraint, or the abundance of pabulum, the theorists do not state, nor do I attempt to do so, for I am neither endorsing nor attacking this theory, but calling attention to it, as having been considered worthy of serious consideration by more than one competent histopathologist. If true in any measure it is suggestive for clinical purposes, and would clarify certain obscure clinical conditions. May we not hope and expect from the many advances already made, that a more careful combined clinicopathologic study may lead to solution of the often vexed question, is this a benign growth undergoing malignant change, is this an innocent change, and when and to what extent will surgery avail?

If some of our cystic benign mammary neoplasms are thoroughly examined no essential difference can be pointed out from others seen in carcinoma, except in their relation to the stroma, careful examination of other portions of these apparently benign growths show in a few, perhaps in only one of the cystlike spaces, ingrowths of masses of cells which are no longer normally related to the stroma, and none will deny that they are carcinomatous histologically. Unfortunately the presence of these intracystic malignant ingrowths cannot as yet be clinically predicated, yet if this could be done it would at once alter both practice and prognosis, for if any part is malignant, the treatment and outcome of that case depend on the minute malignant portion, not on the massive nonmalignant tissue. Moreover, has the last word been said concerning the histologic structure of the precancerous lesions? These small secondary malignant epiphenomena are often very hard to detect and require careful microscopic study of the whole growth. I am not the first nor shall I be the last to find occasionally a clinical diagnosis confirmed by the results, not because an incorrect histologic diagnosis was made, but because the diseased tissue was not examined. In the face of a decided clinical diagnosis by an expert diagnostician, only the most exhaustive histologic examination should invalidate it. In support of my plea for more extended examinations of

diseased tissues, and the combined study by the clinician and pathologist of all doubtful cases, let me quote a few only of my personal observations during an extensive experience. I am convinced that both our clinical and pathologic advance along fruitful lines is often hampered by inadequate pathologic examinations of diseased structures so that the clinical course and the histologic findings are not capable of productive correlation.

How can I explain the fatal metastases in a clinically diagnosed carcinoma of the breast without local recidives, except by examination of limited portions of the tumor which decided that the growth was benign, for the pathologist was an expert? How else can I otherwise reconcile the positive diagnosis of carcinoma (which was correct) and the subsequently equally positive opinion by the same most competent authority, that the breast was sarcomatous? Equally hard is it to believe that a thoroughly competent observer could not detect sarcoma, but only scar tissue in material removed at a secondary operation, when the same observer was later compelled to admit that the third growth was histologically and clinically sarcoma? How can I fail to have a demonstration of too limited histologic examination, when three sections made after levelling the imbedded block, revealed a typical squamous carcinoma, when an opinion of a number of competent men declared there was nothing but fibrous tissue, *because they had never sectioned the growth but only the cicatricial tissue?*

When the whole of a neoplasm cannot be sectioned, a most admirable practice, which, if more commonly employed would reveal some surprising facts, numerous blocks, not only from the focus, but also from apparently normal and also questionable areas should be sectioned, and studied with an unprejudiced mind, especially when clinical evidences point strongly towards malignancy. A sufficient number of such cases, carefully compared with and corrected by the clinical findings I believe in time would lead to a more correct differential diagnosis and therefore better therapeutics. Unless some such method be employed we shall make no substantial advance in the rational treatment of mammary growths.

Now as to the clinical application I think should be made of our present knowledge of mammary neoplasms. The question is often asked in practice, if not in words, "unless there are other special contraconditions, physical or psychic, when reasonable doubt exists, why not

remove the tumor and make the histologic diagnosis later?" If for no other reasons the patient is either subjected to an inadequate operation possibly leading to dissemination of a carcinoma or an unnecessarily extensive intervention is made. For many years I have been in the habit of asking myself certain questions. Do clinical evidences, irrespective of age, give me reliable grounds for declining operation? Does the clinical evidence leave a reasonable doubt that the growth is not benign and therefore that a conservative operation is not advisable? When doubt exists as to the nature of the condition, is the patient a female of childbearing age? If married has she borne children and successfully employed this breast for suckling? Is the other breast competent for this function? Would the conservative operation contemplated leave a breast of any functional value? Is the patient specially averse to sacrificing the whole breast? Are there neurotic or psychic prejudices legitimately requiring consideration, and a partial conservation of the organ?

If the answers do not forbid operation or the more important ones do not, I always advise radical operation. Of course my decision is only arrived at in a doubtful case, after a careful consideration of all the questions involved.

I am influenced, except in its favor, by radical operation in doubtful cases, because should infection occur, a partial operation is more dangerous to life and more apt to prove crippling than a complete one, for reasons which must be manifest to all.

DISCUSSION.

DR. DE NANCREDE: I anticipated a number of facts would be brought out that I purposely omitted. As I said, it would take several twenty-four hours to really cover the subject, but there are certain points that have not been touched upon at all. One of the troubles, it seems to me, as to our therapeutics of cancer, is our views as to its causation. We have been considering for years that germs must be the cause. There has never been any germ or set of germs or any kind of inferior organism, vegetable or not, that has been supposed to be the cause of carcinoma which has proved to be the causative agent.

What I hinted at is something which sounds more in accord with what we observe, and explains many things. I don't say it is the true explanation. It explains the fact that occasionally traumatism starts carcinoma or still more often, sarcoma; that traumatism apparently rapidly increases any malignant changes and the rate of invasion of established carcinoma. That forms of traumatism can possibly be invoked in all forms of carcinoma cannot be denied. The pylorus, the lower parts of the rectum,

the cervix uteri, the mouth, certain portions of the esophagus, are subject to traumatisms. We know that there are certain carcinomata that are traceable to repeated slight traumatisms, chemical sometimes. Possibly this latter is true of soot and of cobalt in carcinoma of the lungs. I want to call your attention to the fact that possibly we are on the wrong track and that we must drop the parasitic theory and go back to one of the many theories that were deemed satisfactory in the past and which have much to be said in their favor.

I was interested in this clipping from the newspaper:

"Chicago, May 5. Dr. Maud Slye, the University of Chicago research worker, who *recently* advanced the theory that cancer is inherited and not contagious, as a result of ten years' experiments with 11,000 mice, was awarded the Howard Taylor Rickett's prize by the faculty of the University medical school." What is recently and what is heredity?

The restraint view has a great deal in it and will bear a good deal more study than has been devoted to it in the past.

Now as to curability. Is immunity three years as we used to say? No. It is longer than that. When you get ten, fifteen and twenty-five years of immunity from a disease and the patient dies perhaps from some other condition you generally consider him cured. Any one here can easily report, even show you patients who are still living many years after removal of undoubted malignant disease, and are perfectly well without any recurrence. Now I believe that is not rare. I was taught many years ago that a very considerable number of cases of cancer of the breast were curable, a few even in the late stages and many in the early stages, if you did the proper operation. Age has little or nothing to do with the diagnosis of cancer. It has something to do with the fatality of the disease. I have known carcinoma of the breast in a female child of three and a half years, and I have known of carcinoma in other localities in many comparatively young people.

HOW THE STATE CAN HELP IN SOLVING THE CANCER PROBLEM.

C. G. DARLING, M.D.
ANN ARBOR, MICHIGAN.

In a paper, read before the Medical Department of the University of Michigan, October, 1912 I made the statement that there should be added to the clinic a department for the study of cancer. "Everybody is dreadfully interested in cancer and this dread is made worse by the pessimistic view of physicians, with failure written on their faces. Just now the scientific world is engaged in the study of cancer as never before. We know that the future advancement in the treatment of this disease will not be along operative lines, but will rather be medicinal and associated with

laboratory findings. Nowhere in the State can this work be carried on so efficiently as by the combined forces of the University clinic. This work should be begun at once, not only for the advancement of knowledge, but for the protection of the people. This division of work should afford proper attention and relief as far as possible for the incurables."

Nearly three years have passed since the above paragraph was written and if I may judge from the lack of sentiment aroused by this advanced notion, it was of no particular value and did not excite comment from any one. So far as I know, no attempt has yet been made to place cancer on the list for investigation in the State of Michigan. During these years, thousands of people have died in the State of Michigan from cancer, some of whom had reached old age and were ready to die, but a number of them might have been useful for several years if the disease could have been held back or removed.

One reason why the State is so slow to recognize the necessity for investigating the cause and cure of cancer is that the disease is essentially one of advanced life. The patient has reached a period in life when he is supposed to have some knowledge of the laws of health and how to ward off disease, while most of the other diseases coming under control of the State Board of Health are essentially diseases of childhood and occur before the child has the requisite knowledge for guarding against disease.

The physician and the public have assumed, to a large extent, that cancer cannot be cured. The result is that the patient hides the condition from friends and physician alike, until it is too late to bring about much of a change. The family physician, while in doubt, temporizes and will not allow himself to be convinced that his patient has cancer until it is too late for operation.

In order to define this position clearly I will present some statistics concerning one phase of the cancer question as it appears in the Surgical clinic. This will represent but a small part of cancer cases coming to the Hospital appearing as they do in all clinical departments except that of pediatrics. I have taken cancer of the mouth and face because they present such peculiar accessible points of origin and are easily discovered. I have selected three representative years because I was able to secure quite full histories of the patients treated. In 1905-06 there were 23 cases of cancer of the

mouth and face. There were 11 cases of cancer of the jaw, two of which were operated and two were treated by X-Ray. There were two of the face operated and one not operated. There were 10 cases of cancer of the lip all of which were operated. During the year 1910-11 there were 38 cases of mouth and face cancer. There were 17 cases of cancer of the jaw; 11 of them were operated and six of them were not treated. There were 10 cases of cancer of the lip, six of which were operated and four not treated. Of three cases of cancer of the nose, two were treated and one was not. There were three of the tongue, two operated and one too far advanced for operation, and six of the cheek, two operated and four not operated.

For the year 1911-12 there were 37 cases. There were 14 cases of cancer of the jaw, six of which were operated and eight were not operated. There were 13 of the lip, 11 operated and two not operated and 10 of the face, six operated and four not operated.

This list for three years represents 99 cases. There were 47 cases of cancer of the jaw and only 19 of these were operated. Sixty per cent. of the cases of carcinoma of the jaw came too late for operation. There were 33 cases of cancer of the lip, 28 of which were operated. Fifteen per cent. came too late and cancer of the lip is so readily seen and diagnosed that there should be no temporizing about treatment. Some of these patients had tried the paste cure as employed by so called cancer doctors, which accounted for the hopeless delay. There were three cases of cancer of the tongue, two operated. Cancer of the tongue can be cured by early operation provided the patient is not syphilitic, a condition which is greatly against recovery in all cases of cancer of the mouth and face.

There were seven cases of cancer of the cheek only two of which were operated, 80 per cent. beyond operative stage when presented at the clinic. There were four cases where cancer involved the nose. One was operated and 75 per cent. remained untreated. The average age for the appearance of cancer of the mouth is about sixty years. The patients are mostly farmers or laborers and every case presents a dirty mouth. Not all are users of tobacco but the use of the tooth brush is almost unknown. In but few instances was there a history of cancer in the family.

During the years 1913-14, 144 cases of cancer were presented in the Surgical clinic, 76 of which were operated. Nearly one-half of the

patients came too late for operation and were sent away to die from a lingering disease, many of them without even the ordinary means for relief from pain and suffering.

According to these statistics one-half of the cases of cancer come too late for operation. Where do they go to die? A number of those who are operated will die from recurrence of the disease, some will pass away at home while others will have no place for care and treatment.

Ignorance and superstition account for the delay in seeking proper medical advice and this can be overcome only by education. The State should place in every house within its borders a pamphlet setting forth the early signs and symptoms of cancer and the value of consulting a physician about small skin and mucous lesions. The State should provide means of transportation to, and treatment in, a proper hospital for all poor persons so affected. It should provide a home for the incurables where they may be made as comfortable as possible for the remainder of life. It should provide and maintain a laboratory for research and the treatment of cancer to investigate those problems which are peculiar to the State and not necessarily of national importance. The natural place for carrying out these provisions by the state, is the University Hospital. It should be called the "Michigan State Cancer Hospital." This name should not be an advertisement but a guarantee to the people that the State has provided a place where any person may secure the best the medical profession has to give for an extremely fatal disease.

THE CONTRIBUTION OF THE X-RAY TO THE DIAGNOSIS OF ABDOM- INAL CARCINOMA.

JAMES G. VAN ZWALUWENBURG, M.D.
ANN ARBOR, MICHIGAN.

The problem of the early diagnosis of malignancy has taken toll from every method that offered any hope for a solution and X-Ray methods have received their full share of attention. Until the last few years, such efforts were more or less futile, and although in a few cases where conditions were exceptionally favorable, a well developed carcinoma had been demonstrated, the method did not deserve the expenditure of the necessary time and money. With better methods and better equipment, there has been developed a technic which furnishes much valuable information although the dream of a really early diagnosis has not yet been realized.

This is partly due to the nature of the disease itself. The radiographer has seen many cases in the last few years, but of these, few are really early. The onset of the trouble is so insidious that the patient does not present himself for examination until the disease is well advanced. If patients could be seen before the onset of any symptoms whatever, the methods at our disposal might be counted on to be of much greater service. Nevertheless there is a growing list of observed cases in which the diagnosis could be made with certainty only by radiographic means, and a much larger list in which the accurate determination of the location and the extent of the disease has been of no little service to the surgeon. At any rate a definite diagnosis may be made in cases which otherwise would require observation and in so far serves to advance our methods nearer the "early diagnosis" every one seeks.

The diagnosis of abdominal malignancy depends on the observation of changes in the form and function of the hollow viscera. Both of these presuppose a thorough knowledge of the normal and physiologic conditions.

The observation of an alteration of the form of the organ under examination depends on the ability to completely fill them, and is therefore confined to the examination of the stomach, colon, and in case of obstruction to the esophagus. The small bowel neither fills well, nor can its shadows be separated so as to give us an adequate idea of the continuity of its lumen, and direct examination is impossible.

Until recently the esophagus could be demonstrated only when an obstruction, complete or nearly so, allowed of a demonstrable filling of its lumen. Dr. Stewart has recently succeeded in showing the normal esophagus by having the patient swallow a length of sausage casing which has been closed at the bottom by a ligature and which is then filled by an opaque suspension from above. As applied to a partial obstruction, it has the great advantage of showing not only the upper level of the obstruction, but the lower as well, and giving a very good idea of the nature of the process from the character of the deformity. Carcinoma may be recognized in the vast majority of cases and the malignancy of an obstruction established.

Carcinoma of the stomach not only deforms the stomach shadow but also causes characteristic changes in the function. The deformity is in the nature of a defect in the stomach, that is, the growth prevents the filling of restricted areas we should normally expect to be filled,

and there is accordingly a defect in the stomach shadow. These defects are usually striking and pathognomonic. There are certain artifacts that need to be carefully excluded. The remainder of a previous meal may produce a false defect. More often, the difficulty arises from the presence of gas in the transverse colon or splenic flexure, either of which may be very deceptive. A homogeneous opaque meal is also a prime necessity.

In the absence of a definite defect, carcinoma may be suspected from the local failure of the peristaltic wave. By involvement of the circular fibers of the muscularis, the onward progress of the wave is interrupted. Usually, this involves the entire circumference of the mucosa at this point and the wave is not resumed distal to it. It not infrequently happens that no peristalsis of any kind is observed. This occurs principally with an infiltration of the lesser curvature just proximal to the pylorus, and it has been suggested that the principal nerves controlling peristalsis traverse this region.

An important group of suspected cases is those which show signs of old peptic ulcer. Surgical experience has shown the frequency with which these undergo malignant change. Unfortunately, there is no X-Ray evidence available which will allow us to differentiate. Nor can a small obstructing carcinoma of the pylorus be differentiated from the scar of an ulcer leading to a similar obstruction. In both of these cases we feel justified in recommending surgical intervention, being satisfied to demonstrate the anatomic conditions.

The most brilliant feats of diagnosis have been in the field of the scirrhus carcinomata. These are peculiarly insidious, lead to little or no retention and are particularly difficult to recognize by laboratory means. They invariably show extensive involvement and retraction. The stomach is reduced to a rigid narrow tube through which the opaque meal passes freely into the duodenum. There is no sign of peristalsis. A positive diagnosis may be based on these findings. Unfortunately, no early cases are seen.

Valuable information is furnished in the form of evidence of involvement of neighboring organs by metastasis, either by tumor as in the liver, or by adhesions as in the colon and small intestine. Such evidence is necessarily indirect and requires the use of the horizontal fluoroscope, which allows of "visual-palpation."

On the whole, we may say that the greatest value of the X-Ray examination of the stomach

obtains in the cases of carcinoma without obstruction. This follows directly from the fact that the clinical diagnosis depends in no little measure on the evidence of pyloric stenosis with its resulting fermentation.

Extragastric tumors may be recognized by the pressure deformities produced in that organ, and by pressure stenosis in the small bowel. Unless fixation or infiltration of either organ can be established, the diagnosis of malignancy must be presumptive since any cause of pressure might give the same signs. Most characteristic are the tumors of the head of the pancreas, which cause a displacement of the antrum of the stomach downward and a broad curved lesser curvature and a separation of the loops of the duodenum. They more often present above the lesser curvature than otherwise and produce early involvement of the transverse colon as shown by fixation or obstruction. Carcinoma of the gallbladder can rarely be distinguished from other enlargements of this organ unless metastases have occurred in the duodenum or hepatic flexure.

Similar findings hold for all tumors of the abdomen not primary in the gastrointestinal tract, and each case must be judged on its own merits.

With the proper technic, cancer of the colon except in its pelvic portion may be diagnosed with great certainty and much earlier than by any other method. The most valuable procedure is the injection of the opaque enema. There is no difficulty in injecting the entire colon to the cecum. The progress of the enema can be followed by the fluoroscope and the temporary arrest of the onward flow at a kink is promptly followed by a more rapid progress as soon as the temporary obstruction is overcome. In true obstruction however, the remaining bowel fills slowly and uniformly, the rate depending on the degree of stenosis. The site of obstruction is marked by a persistent filling defect, and often by a palpable tumor. For verification a pair of plates is usually taken which show in much finer detail and in greater contrast the defect already seen. Although simple in theory, in practice much depends on the physical properties of the opaque enema, which must be fluid enough to flow through the tube easily and viscid enough to hold the opaque salt in suspension.

Much the same information may be obtained by observing the progress of the opaque meal similar to that used for stomach examination. A serious difficulty often arises in distinguish-

ing between the normal colonic haustrations and the defects produced by a tumor in the lumen of the bowel. The procedure requires an observation at intervals over a period of two or three days, which is a serious objection.

Cancer of the rectum may be better studied by other methods and are rarely referred to the radiologist.

The radiologist is under no illusions as to the limitations of his method. Nevertheless, we believe that much valuable information is obtained in the routine examination of all cases suspected of abdominal malignancy. Doubtful cases not infrequently give pathognomonic radiographic signs, and clear cases may often be shown to be inoperable without an exploratory operation. When we know more in detail the significance of all we see, we shall be in a position to more rationally assist the surgeon to a selection of the proper treatment.

We feel certain that the radiographic method could establish the diagnosis of cancer of the stomach earlier, and with greater accuracy than could the internist, if the patients presented themselves for examination earlier. Certainly, the changes that are found with the onset of symptoms are exceedingly gross and could be recognized at a much earlier stage if we had the opportunity to examine them.

THE TREATMENT OF CANCER OF THE UTERUS.

REUBEN PETERSON, M.D.
ANN ARBOR, MICHIGAN.

Just at the present time we are somewhat discouraged regarding the radical cure of carcinoma of the uterus. The reason for this has been brought out by the previous speakers, for in our clinic also the patients with cancer for the most part come too late for any sort of radical treatment. During the past year we have been able to perform only two or three radical operations for cancer of the uterus. The remaining patients with cancer, probably about twenty or twenty-five, have been subjected to palliative operations with the cautery according to the method advocated before this Society by Dr. Percy of Galesburg, Ill. For we feel that more can be gained for these patients who are far advanced with carcinoma of the uterus by this method than subjecting them to dangerous radical methods of removal where both primary and secondary results are very bad.

Thus more and more are we forced to admit

that the results of the treatment of uterine cancer depend upon the stage of the disease when the patient comes to the surgeon, and the conclusion is forced upon us that so far as treatment is concerned the results will never be any better until a plan has been devised and put in operation whereby patients with uterine cancer can be operated upon earlier.

Dr. Darling ought not to be discouraged because he gave an address about cancer and got no results from suggestions contained therein. We have all had the same experience, not once but many times. I have been preaching early diagnosis and operation for uterine carcinoma in papers read before local, state and national associations for years and I have seen but little good results from my efforts, and my experience is similar to that of other gynecologists. So we are forced to conclude that our methods are wrong and if that be true the only thing to be done is to change these methods. Not only must the physicians be convinced that cancer in almost all parts of the body can be cured by early operation, but this fact must be driven home to the public. How is this to be done? The American Society for the Control of Cancer is trying to solve the problem by a campaign of publicity along the lines adopted by the National Antituberculosis Society.

What can be done by publicity is illustrated by the work of Winter of Koenigsberg. He employed all legitimate means of placing certain facts about cancer before the public. He circularized the patients at the hospital clinics, he placed pamphlets on cancer in the hands of physicians, nurses and midwives. In other words he preached in season and out of season that cancer taken early enough could be cured and set forth in simple language the early symptoms of carcinoma, especially of the uterus. As a result of his campaign he was able to operate radically upon 90 per cent. of patients with carcinoma of the uterus while in this country we can thus operate upon only 10 to 20 per cent. of the cases.

The statistics of the previous speakers have been as dismal as my own. It all points to the same thing, we must change our methods, not of operating but of publicity. Dr. Darling's suggestion of a State Cancer Hospital here is a good one, for it would not only do a great deal of good to those far advanced in the disease but it could be used as a center for placing before the people of the state facts regarding early diagnosis and treatment of cancer where by many lives might be saved yearly.

Now just a word about the treatment of cancer by radium. Recently in the pathologic department of the University of Nebraska Medical School at Omaha, I was privileged to see slides of a cancer of the cervix before and after treatment by radium. The latter certainly had destroyed the carcinoma but that it will do this has been known for a long time. But whether such treatment is lasting remains to be seen. Certainly reports from the radium institutions abroad are not very encouraging except with cancers of the skin. However, I am in favor of the continuation of these experiments for we are all willing to be convinced. But while this is going on we must continue to use the knife as often as it holds out any hope of cure. It is of far more importance to bend our efforts to so educate the people that they will recognize the symptoms of cancer early and consult their physicians without delay than to pin our faith upon an agent too expensive for general use which may finally fail to show good permanent results.

CANCER OF THE NOSE.

R. BISHOP CANFIELD, M.D.

ANN ARBOR, MICHIGAN.

In the records of the last 11,200 cases appearing in the Clinic of Otolaryngology there appear fifty cases of malignancy, or one in two hundred twenty cases. Of these, twenty-two were primary in the nasal interior or one in five hundred cases. Of these twenty-two cases, twelve were squamous cell carcinoma, three were basal cell carcinoma, one was medullary carcinoma, one was endothelioma carcinomatosum, one adenocarcinoma, one was osteosarcoma, one was small round cell sarcoma and one was spindle cell sarcoma. Eighteen were males and four were females. The youngest was a man of 22 and the oldest a man of 70. The average 48½ years. In but three of the twenty-two cases could the growth be determined to be primary in the nasal chamber. In two of these the left inferior turbinate and in one the septum was the site of the disease. These last three were squamous cell carcinomas.

In this series of cases, the only complaint was that of nasal obstruction as long as the growth was confined to the nose and accessory sinuses. In no case was pain a marked symptom nor was loss of weight noted until late in the course of the disease. In but three cases had extension taken place in the brain and in no case could involvement of the lymph glands be demonstrated until after the growth had

broken through the bony walls of the nose or sinuses. Metastasis was not noted in any case. In other words, the above series supports the statements that malignancy of the nose and accessory sinuses is unaccompanied by symptoms referable to the character of the growth and causes but slight inconvenience to the patient as long as the growth is confined to these regions. When, however, the lateral wall of the nasopharynx is the site of disease or when the growth has destroyed the bony walls of some one of the sinuses and appeared in the soft tissues of the neighborhood, then and, as a rule, not until then, do anemia and cachexia occur.

Observation of the tumor and the character of its growth very early leaves no doubt of its nature. The vegetative character of the cells, the rapidity of growth, the peripheral extension with lack of capsul and infiltration, the tendency to central degenerative changes and the liability to return after removal, which characteristics Adami gives as the essentials of malignancy, all are noted early. While certain tumors, notably the hard fibromas of the nasopharynx which primarily show only malignancy of the second order, that is, the malignancy of position, frequently develop malignancy of the first order as outlined by Adami, the malignant tumors of the nose as a rule are essentially malignant from the start, both pathologically and clinically.

Of the above twenty-two patients fifteen were operated upon. In the following eight cases a definitely good result was secured:

Two cases of carcinoma of the inferior turbinate, well at the end of three months and seven months respectively.

One case of carcinoma of the septum and inferior turbinate, well at the end of nine years.

One osteosarcoma of the antrum (treated with Coley's serum), well at the end of twelve months.

One endothelioma carcinomatosum of the frontal sinus, ethmoid and orbit, operated with sacrifice of the eye and exenteration of the orbit, well at the end of seven years.

One basal cell carcinoma of the vestibule, well after three and a half years.

One squamous cell carcinoma of the right ethmoid and orbit, well at the end of three and a half years (operated with sacrifice of the eye and exenteration of the orbit).

One carcinoma of the nose and vestibule, well when last heard from, operated four years ago.

The above small number of cases offer some support to the opinion that malignancy of cancer of the nose is relatively somewhat rarer than that of cancer of other parts of the body as long as the growth is confined to the nasal interior and accessory sinuses and that radical and early operation offers a relatively better prognosis.

DISCUSSION.

DR. HAROLD I. LILLIE: It gives me great pleasure to take part in this symposium upon a subject of such paramount importance. Everyone's experience seems to be that the only hope lies in early diagnosis. That is shown in our experience of cases in which two that were operated where the carcinoma involved the turbinate, have gone to recovery and there are no signs of metastases. Dr. Canfield believes that these growths start in the accessory sinuses. Of course, authorities differ. Some believe that the middle turbinates are the places first attacked. The two cases which we have had during the last six months involved the posterior end of the inferior turbinate, a very rare position. It is usually the free margin that is attacked first. So if one is able to recognize the change before it spreads to the lateral wall and into the accessory sinuses where the membrane is continuous with that of the lateral wall, there is a chance of permanent recovery. Although these are very recent cases, still the scar which is evident now, and the patient is under observation each week, is clean and without signs of recurrence.

There are three types of carcinoma which usually occur in the nose, the basal cell, squamous cell and the adenocarcinoma. Of these the adeno and basal cell type are the least malignant. The squamous cell resists all therapeutics, operative and otherwise, unless it is attacked before it spreads to the lateral nasal wall. In such instance it usually involves the accessory sinuses and nothing but the most radical operation is of any avail. So in accordance with nearly everyone's experience the only hope in intranasal carcinoma lies in early recognition before it has spread to the mucous membrane within the accessory sinuses.

The Electro-Chemical Ring.—A post office fraud order has put a stop to the sale of this silly contrivance. This ring, put on the market by the Electro-Chemical Ring Co., Toledo, Ohio, was found to be made of ordinary iron. It was claimed to cure diseases caused by acid in the blood, among which were stated to be Bright's disease, diabetes, epilepsy and cataract (*Jour. A.M.A.*, April 10, 1915, p. 1263).

Olivine.—Olivine was a liquid soap put on the market by the To-Kalon Manufacturing Co., Syracuse, N. Y. It was declared misbranded under the Federal Food and Drugs Act because, contrary to claim, it was not made from olive oil, because boroglycerine was absent and because it had neither antiseptic or germicidal action (*Jour. A.M.A.*, April 17, 1915, p. 1346).

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July

Editorials

TUBERCULOSIS DAY.

As you may have noticed in the June number of the State Journal, the Tuberculosis Committee of our Society has decided to ask the members to set aside a day in the month of August as a date on which each physician will either devote his time and services without financial recompense to the physical examination of such individuals as present themselves before him with regard to the presence or absence of tuberculous disease, or will furnish applicant with information concerning where such examination may be obtained in that locality.

The Governor of the State has issued a Proclamation setting aside Friday, August 20th, 1915, for this purpose.

The State Medical Society should and does stand for the highest ideals of preventive medicine and has in the past conferred honors upon its individual members especially engaged in this line. Here is a work which we trust will be of more far-reaching value than anything previously undertaken by any medical society along the lines of the prevention of disease. It is to be the work of no one individual but of the State Medical Society as a whole and as such should add greatly to the renown of our organization throughout the country.

We trust that you will personally assume the responsibility for the work in your County. We would suggest that you have mayors and common councils throughout your section, issue special proclamations setting aside this date.

We have drafted examination blanks to be used by the individual physician and the same will be forwarded to you shortly for distribution among the members of your County Society. It is requested that these blanks be returned to the Committee by August 23rd in order that the results may be tabulated and presented as a survey before the meeting of the State Medical Society at Grand Rapids, August 29th.

The work undertaken will if thoroughly carried out be the most important thing yet accomplished in connection with the subject of Tuberculosis.

Trusting that you will take a personal interest in the matter and bring the same before the attention of your society at its next meeting, we remain,

Fraternally yours,

Tuberculosis Com. of State Medical Society.

THE RELATIVE MERITS OF THE STATE HOSPITAL AND THE COUNTY HOSPITAL FOR THE TREATMENT OF THE ADVANCED CASES OF TUBERCULOSIS.

In 1907 the State Sanatorium at Howell was opened for the reception of incipient cases of tuberculosis. It was then thought that at no distant day provisions would be made for the treatment of advanced cases at this institution; but the popularity of the move for County and Municipal hospital-sanatoria seems to have over-shadowed the original plan and in 1909 the Legislature passed an Act providing for the establishment of County Sanatoriums and again in 1913 an Act was passed providing for County Hospital-sanatoriums.

This wise legislation, so far as its provisions are carried out, has placed the hospital-sanatorium among the people who require it. Patients and their friends more readily avail themselves of its advantages because it is near at home where they may receive frequent visits from friends and may more conveniently visit their homes. Especially is the local county or municipal hospital-sanatorium suitable for the

care of those acutely sick and for the advanced cases of tuberculosis. They are saved the long journey and the feeling that they are being sent away from home and friends. It is possible to secure hospital care in many cases at the home institution where it would be impossible to send them away. Many more cases can be brought under the influence of the sanatorium than would be possible to provide for by the central state institution.

Whatever the State Legislature may wish to do for the relief of the advanced cases of tuberculosis should be done by encouraging and lending support to the County Hospital-Sanatorium.

A. H. ROCKWELL.

FEEBLE MINDEDNESS IN MICHIGAN.

The study of feeble mindedness is always fraught with many almost insurmountable difficulties. First it requires investigators with talents of a peculiar and rare type. Having found such a one he must undergo a considerable apprenticeship and training before he is competent to undertake such a task. Thereafter it demands the expenditure of an immense amount of time, patience and labor in order to obtain satisfactory results.

Attempts have been made along many lines to find a measure which can be applied to all cases, and which will correctly estimate mental capacity. Most of them are unsatisfactory, disappointing and inadequate. The "Binet" test, up to the present time, is perhaps least objectionable of all the methods used, and it is satisfactory only in skilled and experienced hands. The author of this test has arranged series of questions for children of every age and in different walks of life. The tests which are given to a child of say eight years, for example, are such as any normal child of his age should reasonably and readily meet. They are so arranged as to furnish a basis for determining whether the powers of observation, of judgment, of memory and of reasoning are up to the average of this age. If the child fails to meet these requirements in knowledge and in promptness, he is subjected to lower and lower age tests until one is found where he can qualify within the time required. Thus if a person under test cannot respond correctly, and in the average time to a list of questions more complex than that required for a normal child of seven years, he is classed as having the mentality of

a child of seven, though he may be 50 years old. While this will give a fair idea as to the intellectual attainments of the subject, it does not by any means furnish an insight into the moral side, and moral imbeciles constitute a well recognized type of the mentally deficient.

Feeble mindedness as it is called, arises from failure in cerebral development—usually from birth—so that the subject fails to approximate the normal for his age or his social and intellectual plane. Davenport says that "Feeble mindedness is a deficiency in some socially important trait." If he has never developed in intellectuality beyond that of a two year old child he is said to be an idiot. If he has developed more than this but has not exceeded that of a child of 7 years of age he is classed as an imbecile. If he has however developed beyond the seven year age, and is still below normal on account of some early cerebral defect, he is classed as a moron.

While the idiot and imbecile require constant care, the moron may be quite able to care for himself after a fashion, and for a time at least to earn some sort of a living. The first two classes cause the most trouble although not a menace to society, for excepting in isolated cases they do not propagate. It is the moron group which threatens society so seriously. Formerly they received but scant consideration and care and they succumbed readily to disease. Now-a-days with improved hygiene and better medical attention most of them seem to survive.

The most advanced and scientific effort to place the study of the feeble minded on an intelligent basis is to be seen in the establishment of the "Ohio Board of Administration." This board has just been created to study individually every delinquent and in fact every child who is backward or wayward, or who needs guardianship or institutional care in the state of Ohio.

The cause in every case of delinquency is to be ascertained and the probable outcome of the delinquent under proper surroundings and care is to be estimated. Those who possess inherent mental defect, and who are therefore incurable, are to be separated from those whose shortcomings are dependant on deficient moral or social organization, and which are susceptible of correction through education and training. Thus baneful influences are removed from those most likely to be injured thereby, giving them every chance for development. Private homes are to be sought for suitable cases. Segregation is to be enforced for those who are really

defective. Reform schools are to be used only for those who can be reformed, and such children will not come in contact with unreformable defectives and degenerates. The separation of these different classes is to be carried out only by specially trained workers.

While it is recognized that there is a relationship existing between unfavorable environment and low mental endowment, the poor environment is more likely to be due to the low endowment than otherwise. Degenerates have no high ideals—no ambitions and few aspirations. They do not care to create good environment, and wouldn't appreciate it if they had it any more than a pig would appreciate a napkin. They naturally seek and associate with their kind, therefore the deficient children of such parents are usually raised amid miserable surroundings.

We must not forget several of the fundamental laws of heredity.

First: That two mentally defective parents produce only defective offspring.

Second: That one-fourth of all the children of one defective and one normal parent are degenerate.

Third: That no imbecile is born except as it inherits the ancestral weakness either directly or indirectly from its parents.

The "Report of the Commission to Investigate the Extent of Feeble-mindedness, Epilepsy and Insanity and other conditions of Mental Defectiveness in Michigan" presents the state of our feeble minded in a clear and comprehensive manner, and exposes conditions which are all but incredible in a so-called civilized country. It is a pity that every citizen in the state, and especially every legislator does not read the entire report.

This report states that there are known to be in the State Hospitals for the Insane in Michigan 353 feeble minded individuals. In the County Infirmaries there are 710, while in the Industrial Schools there are 302 more who are known to be feeble minded. Township reports further add 481 to those already mentioned, not including fifty feeble minded women of child-bearing age who are on the waiting list at Lapeer. This makes a total of nearly 2,000 recognized feeble minded individuals in this state. Most of these feeble minded are *not* permanently interned. For instance there are 133 feeble minded girls who will be discharged from the Industrial School at Adrian when they reach 21 years as well as fifty women of child-bearing age on the waiting list at Lapeer.

Besides this are the 137 women of child-bearing age in the County Infirmaries and the 127 women of like age reported by the various townships. This makes a total of 447 known feeble minded females in the active stage of life who are practically free to go and multiply as they please—and as a rule such persons have a *penchant* for reproduction.

Worse than all this, there are actually examples where county and other officials have permitted and actually encouraged these poor unfortunates to go forth from public institutions and get married. And what is more, it is frequently found that from ineffectual segregation children are born from feeble minded parents right inside the public institutions of our state, thus adding to an already heavy burden, and these defectives are permitted to go forth in turn, without restraint, free to reproduce more of their kind.

The actual cost to the state is no inconsiderable amount in itself. In fact it is almost beyond estimate and is steadily and rapidly on the increase. There is a record of two feeble minded persons and their descendants who have already cost the state \$17,000, while the celebrated Juke family itself has cost the great state of New York millions of dollars, and the trouble has only just begun.

The United States supports about one half a million defective persons and over 100,000 paupers at a cost of more than \$100,000,000 per year.

Until this state takes strong hold of this situation and firmly and positively insists on the absolute segregation of the feeble minded element in its population, and strenuously forbids its reproduction, this menace will continue not only as a fruitful source of danger but also as a positive burden and expense to the taxpayers themselves.

The recommendations made by the members of the Michigan Commission are exceedingly good. They are considerably in advance of the time, but there is so much common sense in them that one can but hope the public may soon become sufficiently educated to appreciate them.

WESLEY TAYLOR.

MEDICAL SOCIETY AND THE PUBLIC.

The primary purpose of the county medical society was correctly stated in the transaction of the Litchfield County Medical Society of

Litchfield, Mass. in 1784 as written by Dr. Osler.

"This society was formed on the most liberal and generous principles and was designed first, to lay a foundation for that unanimity and friendship which is essential to the dignity and usefulness of the profession to accomplish that which they resolved; secondly, to meet once in three months; thirdly, that in all cases where counsel is requisite they will assist each other without reserve; fourthly, that all reputable physicians in the county who have been in practice one year or more may be admitted members; fifthly, that they will communicate their observations on the air, seasons, and climate with such discoveries as they make in physic, surgery, botany and chemistry and deliver faithful histories of the various diseases, incident to the inhabitants of this country with the mode of treatment and event in singular cases; sixthly, to open a correspondence with the medical societies in the neighboring states and in Europe for which purpose they have a standing committee for the purpose of examining candidates for the profession and to give certificates to the deserving."

Conditions have changed somewhat but the main purpose for which a medical society was organized has been mainly for the development of the profession individually and collectively.

The code of ethics which has been the doctor's bible since the time of Hypocrates does not reveal to us our responsibility in the public affairs of our respective communities other than medical; nor do the constitutions and by-laws of our own societies mention anything concerning our public responsibilities as a whole.

Medical men of long ago considered their duties well performed when they treated the sick. The people thought that the physician wandered from his sphere of activity when he discussed politics or religion, or when he attempted to invest his few extra dollars in some commercial enterprise to help increase his income. No doubt but that the early medical training had something to do with this. With the increase of requirements for admission to medical courses and of medical training the medical graduates should have the fundamentals of many phases of human activity; should develop in the individual sound judgment, consecutive thinking and an open mindedness that dominates the activities of the great majority of medical workers. Thus, when this characteristic prevails unfettered and when the studious activities continue after graduation in the medical representatives of any community these men should wield a powerful influence in the study and correct interpretation of municipal problems, sociological condition, educational administration and religious propaganda. In-

dividually if the physician assumes the aggressive spirit and utilizes his capabilities he can influence the attitude of his patients to a greater degree than any other person because he does command the confidence and respect of the people he serves. Our medical societies in the great majority of instances at the present time are composed of men who have sincere concern as to the conduct of municipal affairs and they are not sitting on the side lines and sleepily gazing on while the turmoil continues unabated. They are actively in the midst of the battle and the people are looking to them for guidance. If the component elements of medical societies are thus active in public business why should not the medical society hold special meetings if necessary to discuss our non-medical affairs and put ourselves on record as to our attitude on these questions. Some of the membership believe that a medical society should not express itself as to its opinion on public issues; that it should confine its activities to the practice of medicine. Of course if the society as a group of individuals wish to think nothing, do nothing, be nothing and become mummified and petrified in medical issues only and focus its efforts on a sphere of activity, like a hole in a board, just because of precedent and tradition then it must eliminate all interests non-medical. However, we are human as mortals go but our training, if it has performed its mission as it should, has broadened our horizon to include all the activities of human life; it has enabled us to lift from our shoulders the mantle of precedent mysticism and tradition and has fired us with a desire for truth as we see it. "Service is the one key to success in life. The only free man is he who is free to give and is ever giving tireless, personal service to his fellow men. To give of your wealth is not enough, to give of your possessions is not enough, for these are not you. Only then do you satisfy your debt to the race that has borne you like a mighty current from eternity to now, to the Power that has fashioned you when you give yourself abundantly and unreservedly." This is not only applicable to medical men individually but collectively.

The County Medical Society has a public responsibility, a great mission to perform in an aggressive not perfunctory manner and the Society should not shirk this duty. The people will respect the Society and honor the individual members the more greatly for such an attitude. The people will lend aid and influence that is indispensable when the State Legislature

is considering medical legislation. In the time of some epidemic of infectious disease the profession will be more closely cemented and rigid quarantine can be more efficiently maintained if the local medical society manifests an interest in public affairs in every way possible; especially will this prove true if a committee on Public Health and Education is active in the education of the public in medical issues that vitally concern public welfare. One great factor in this public education propaganda is a bulletin of the County Medical Society mailed to public spirited citizens of the community. The County Medical Society teems with potential energy to be rejuvenated or regenerated for the development of its membership, for the education of the public on medical issues and for bringing about a friendlier basis for co-operative work between the public and the profession.

C. B. FULKERSON.

CENTRAL STANDARD TIME.

Detroit, after an agreeable period of dormancy, has resurrected the old problem of time and on May 15 adopted Eastern Standard time to govern their social and commercial activities.

Detroit's action would be of little moment to the remainder of Michigan were the endeavor not being made to induce the rest of the state to adopt Eastern Standard time. Such an effort is uncalled for and presumptuous.

The excuse given is, "more day light." Authorities tell us that the change provides approximately but 42 additional hours of daylight in the year. This is the only advantage derived. Is that advantage sufficiently great to over-ride the disadvantages, confusion of time with other communities in the state, railroad schedules, weather bureau observations, legal acts, which by legislature enactment has established a legal time for Michigan?

Our present system of time, Eastern. Central, etc., has been in existence but forty years. Its adoption was brought about by the weather bureau. Forty years ago there were some seventy different standards of time in the United States and necessarily there existed seventy confusions. A satisfactory system was arrived at. It met all conditions. Why change back to the old regime?

If more daylight is demanded, why not cause the laboring day to commence at 6 o'clock and end at four? Such a plan would secure the forty-two hours of daylight and not disarrange

the system which has a nation wide bearing upon commercial, legal and social activities.

The Detroit Medical Journal invites the attention of other cities and municipalities to fall in line with Detroit. It states that the citizens and profession of Detroit are satisfied. We would respectfully suggest that in this present era of modern enlightenment with its facilities of intercommunication, commerce and business exchange, that the day is long past when a community exists only unto itself. To-day there is an interdependence, an interresponsibility that extends beyond the boundary of circumscribed domains. Detroit is dependent upon Michigan as much as Michigan is dependent upon Detroit, to a certain extent. Detroit then has retrograded and is working a disadvantage upon the commonwealth of Michigan in adopting an Eastern Standard of time. We prophesy its early return to Central Standard time.

HOTELS.

Ample hotel accommodations for those attending the Annual Meeting in Grand Rapids are assured. Herewith we impart a list of the leading hotels.

New Pantlind Hotel, Headquarters	\$1.50 up.
Morton House	2.00 up.
Hotel Cody	1.50 up.
Hotel Mertens	1.50 up.
The Crathmore	1.50 up.
The Eagle	1.00 up.
The Herkimer	1.50 up.

These are all first class hotels, conducted on the European plan and capable of caring for at least 1,200 visitors. They are centrally located and are all within five blocks of the meeting place. The new Y. M. C. A. building will also be able to care for a limited number in its new dormitory.

To avoid all eleventh hour confusion we suggest that you write and make your reservations at least 30 days in advance.

Editorial Comments

The dangerous man is he who has tuberculosis but does not know he has it.

"Consumption" is a disease full of deceptions. Those on whom it has fixed its grasp deceive themselves, especially in its early stages, by refusing to believe they have it at all. It is the irony of the malady that it snares its victim first, then turns the victim into an ally. First

he is to be pitied, then feared. For one intelligent, careful sufferer, who tries to shield others, there still are scores who are a public menace.

The consumptive who is in the final stages and knows it is seldom dangerous. He is a marked man; bed-ridden, shut off from others. But the man who has been infected and who ignorantly walks the streets—the thousands who harbor the germs in their systems and continually give them off to other people—these are dangerous. Because tuberculosis slays more than any other disease we should combat it as we would smallpox or leprosy.

It is the early stages of the disease which constitute the most perilous period for the victim and for society. Instead of seeking medical aid or taking diligent health precautions, he goes on his way in blissful unconcern. He infects others and he re-infects himself, inhaling or swallowing back into his system the death-laden bacilli.

Forewarned is forearmed. It is the common duty of every apparently healthy person to take account of possible early symptoms of this plague and stop growth of the bacilli before they get a good start. When a cold "hangs on," catarrhal symptoms are followed by lassitude, light fever late in the day, night sweats, pains in the chest, loss of appetite, or persistent coughing, then one should consult a physician. Even persons in full health may well be examined twice a year, just as they consult the dentist or have their watches cleaned regularly. Only such precautions are insurance against the White Plague in all its forms.—G. R. Press.

An appearance of ruddy health does not exclude tuberculosis.

The August issue will be a Grand Rapids number. In it the reader will find as full as possible announcement of the entire proceedings planned for the 50th Annual Meeting to be held Aug. 31, Sept. 1, 2. Please bear in mind these dates.

In any patient with constitutional symptoms, no matter of what he complains, the possibility of tuberculosis must be kept constantly in mind.

The Tuberculosis Committee's request to you to aid them in causing Tuberculosis Day to bring about a group of tubercular statistics of Michigan is deserving of every physician's co-

operation. It isn't too much to request you to render this support in the endeavor to lessen the prevalence of tuberculosis of Michigan.

Constitutional or general symptoms lead us to a diagnosis of tuberculosis, while the localizing symptoms point out the organs involved.

The advertisers of this issue have a message for every reader. They are presenting to you remedies, supplies, etc., that you require in your daily work and home life. If you desire to continue the standard of *The Journal* it is more than essential that you assign them your patronage.

Your patients, your friends, your family are as prone to contract and develop pulmonary tuberculosis as hundreds of others.

The Governor has signed House Act No. 64 which provides for the examination, registration, regulation and licensing of Chiropractic under the auspices of the State Board of Registration in Medicine.

The importance of physical examination in the diagnosis of pulmonary tuberculosis has been over emphasized.

Symptoms are a better and more accurate guide to activity than physical signs.

Symptoms without physical signs demand treatment while physical signs without symptoms require only careful watching.

From present indications the 50th Annual Meeting promises to be the largest meeting in the history of the Society. He would be indeed an unfortunate one who neglected or failed to be listed among those in attendance.

Failure to interpret rightly significance of symptoms, to detect the presence of abnormal physical signs, can be condoned; but failure to ask for and examine the sputum repeatedly in any patient with chronic cough is inexcusable.

The Abilene Water advertising in this *Journal* has been approved by the Council of Pharmacy of the A.M.A., and it briefly outlines some of the excellent qualities of this American Natural Water. The Abilene Company will gladly send you a quantity of this water for personal or clinical trial upon request.

EDITORIAL COMMENTS.*

The very first objective sign of tuberculosis that one can demonstrate is usually a limitation of motion in the joint, due to a spasm of the muscles around the joint, and we cannot say enough and cannot hear enough about this sign. It is, of course, a reflex spasm of the muscles which nature produces in order to immobilize the diseased and painful joint. It is the most misused and misunderstood of signs. It has nothing to do with ankylosis. Motion may be free and painless through nearly all of its range, except perhaps at the extreme limit of flexion or abduction or extension or rotation.

When a child has beginning tuberculosis of the spine, the first symptom the parents usually notice is that the child holds the back stiffly, and so the mother says it cannot possibly have anything the matter with its back because it holds it so straight. She thinks the child must be all right, and cannot have anything the matter because he walks like a little major. When you drop something on the floor, instead of stooping over he will, if it be in the lower dorsal and upper lumbar region, pick it up without bending the back. This instinct protection of the joint is the most valuable sign we can have in the diagnosis of tuberculosis of the joint, and it is one almost invariably neglected. Ask the average practitioner what the signs of tuberculosis of the spine are, and he will say kyphosis, the hump and cold abscess. We have many cases every year which never have a cold abscess. We have a good many that never develop a hump, and yet they are just as typical cases of tuberculosis of the spine as anything can be when the child is laid face down on the table.

While the child is being held in this way, the fingers of the other hand, pressing up and down the spine along the erector spinae muscle, will detect a certain feeling of tension of the muscles due to spasm. They are protecting the painful spine. These two signs in the presence of a positive von Pirquet reaction, to which I attach a great deal of importance, will make it necessary to consider the average case of this sort, with a chronic history, with a usually painless development of stiffness of the back, almost certainly a case of Pott's disease. We do not need to wait for a cold abscess or a hump in the back in Pott's disease, or for flexion and deformity of the hip to make a diagnosis of hip-joint disease, and it is enormously to the advantage of the patient if we can make a diagnosis and institute treatment before there is fixation or marked deformity or destruction. This is pre-eminently so in Pott's disease, because, with our present method of treatment by artificial ankylosis of the spine by means of a bone splint or by means of cutting through the spinous process and the laminae and making an ankylosis after the method of Hibbs, it is possible to cure a child of tuberculosis of the spine with no deformity whatever; and not only have they no deformity, but they will not get any deformity, so far as our experience of three years is concerned.

What help does the X-Ray give us in the diagnosis of tuberculosis? In small children it can give us absolutely no help, because we must remember that in small children the epiphysis, the head of the femur, for instance, is not shown at all in a child at an early age. The head of the femur is cartilaginous and soft, and the X-Rays pass readily through it. The only thing that we can see is a little centre of ossification, and it is useless to try and size up a hip-joint tuberculosis in a small child by the X-Ray appearance. The entire head of the femur may be destroyed except a little osseous centre or centre of ossification that may happen to be the only part of the head of the femur that is not destroyed, and yet the X-Ray will not show it. It is only in the older cases or in those cases with wide destruction that we can depend upon the X-Ray picture.

Infection takes place from close personal association or contact with open tuberculosis, as by living with a consumptive or living in a room or house contaminated by a consumptive. The great source of the infection lies in the carelessness of the individual consumptive in contaminating his surroundings, by spitting about or not properly disposing of his sputum; or by spray infection from coughing (equally dangerous) without guarding the mouth with a paper napkin. His towels, bedding, table utensils, etc., are also a source of infection. The period at which a consumptive is most dangerous covers, of course, the second and third stages of his disease when the lung is breaking down and the sputum contains large numbers of living tubercle bacilli.

Milk and meat from tuberculosis animals also constitute a source of infection. Infection from cow's milk has been variously estimated as being responsible for from 1 to 10 per cent. of cases in infants. Infection may also be hereditary, the direct transmission of the tubercle bacillus taking place from mother to the fetus by placental circulation. This has been shown to occur in mothers with advanced pulmonary or miliary tuberculosis, but has recently been shown as also possible where the lesion in the mother is in the incipient stage or even latent or non-active at the time of the birth. (Warthin).

All authorities admit that at least 75 per cent. of the population will react to tuberculin. From post-mortem findings, evidence has been clearly accumulating as to the frequency with which the disease is found at necropsy among the poorer classes; and, with increased refinement in postmortem work, the percentages are getting significantly greater. Gageli reported definite signs of tuberculosis in 97 per cent. of all bodies examined consecutively. Hamburger, reported postmortem findings of 63 per cent. with tuberculous lesions between the ages of seven and ten years of age. Gohn's postmortem statistics from St. Elizabeth's Hospital in Vienna show that by the end of the third year 6 to 8 per cent. are infected, the percentages rapidly rising until by the fourteenth year the infection reaches 92 per cent.

It may be stated as a fact that tuberculosis is the most common infection of childhood, and, as well

*Editorial comments extracted from published articles by Drs. A. P. Francine and E. W. Ryerson.

pointed out by Philip, we must get rid of the artificial distinction between so-called medical and surgical tuberculosis. From the scientific standpoint, the most slender seedling of tuberculosis is potentially significant. It is impossible to say which tuberculosis seed will be cast off and which will mature. Inoculation may occur through the mucous membrane of the gastro-intestinal or respiratory tract, or the skin, and whether it will spread from the lymphatic system, which is the first site of this early infection, and develop into pulmonary tuberculosis later, depends largely on the child's vitality and resisting powers through its living tissue cells, and upon its environment. In other words, this quality of natural or acquired immunity may hold the infection dormant; may heal an active lesion in its incipency, or localize it in the glands or bones; or may give way with resulting meningeal, miliary or pulmonary involvement. The course of events which supervenes, is dependent largely on extraneous circumstances, on the amount and character of the tuberculosis infection, on the number and character of the acute infection to which the individual is exposed; on enforced environment and to considerable extent on inherited qualities.

The problem of prevention to be effective, even as limited to the medical aspect of the communicability of tuberculosis, must not only take into account the care and isolation of the consumptive himself, but also the care and development of the children who have already been infected or who may be exposed to infection, and probably the development of a specific racial immunity. But when we consider as essentially one, as we must do, the two broad phases of the problem, namely, the social and economic conditions, and the more strictly medical conditions responsible for the prevalence and spread of tuberculosis, the point previously emphasized is brought forcibly upon us—how very apparent is the interdependence today of the tuberculosis campaign and all efforts looking to the common welfare. Let me repeat, that it is not alone from the strictly antituberculosis campaign that we may confidently expect to control tuberculosis, but from all allied movements looking to improvement of the health, morals, or conditions of the people. Folks says: "If our task is the more difficult because it is bound up with every phase of civilization, it is equally true that every substantial advance in other lines assists our cause."

It is apparent that the movements against infant mortality venereal diseases, alcoholism, the infectious fevers, cancer, procreation of mental defectives; and the correlated campaigns for better housing conditions, better hours and conditions of labor, child welfare work, etc.; all these movements, public or private, of whatever scope and by whatever methods they proceed, are all working to a common end, the welfare of the race, and as such are prototypes and allies of each other and of the greatest of them all, the tuberculosis campaign. They are all campaigns of preventive medicine, based on scientific development and attempting, largely by education, to carry the message of health and right living into the homes and very hearts of all the people.

The problem of eradicating tuberculosis is to combat the drift of the times, to raise through education, sanitary laws, hygienic and philanthropic effort the proletariat from their condition of dense ignorance and poverty, to enable them to get suitable homes, and teach them how to live and manage them.

Absence of tubercle bacilli in the sputum means only that bronchial ulceration has not occurred.

Patients who present themselves for examination frequently complain of symptoms commonly spoken of as "stomach cough." Disease of the stomach is not associated with cough. On questioning the individual we find that the stomach symptoms are limited to an attack of vomiting as the end process of a violent attempt to expel tenacious sputum from the respiratory passages. These individuals on close questioning will admit that their vomiting is always preceded by a violent conghing paroxysm, and that they feel no nausea such as is associated with attacks of vomiting arising from gastric disturbance itself. They further state that they do not feel an aversion to food and would be perfectly capable of partaking of a good meal immediately upon the cessation of the vomiting attack. The terms "stomach cough" is a misnomer and should never deceive the intelligent physician.

The disease is practically always more extensive than the physical signs indicate.

The state of Michigan has declared war, not against its fellow men but against a powerful and implacable enemy of all mankind. Every citizen is called upon to do his duty and we as physicians possessing special knowledge of the character of the enemy, its hiding places and manner of attack are in duty bound to take our places in the front ranks and do scout duty in order that we may ascertain the strength of the enemy and the distribution of its forces. Michigan has the lowest death rate from tuberculosis of all the states of the Union in the registration area with a single exception of the sparsely settled state of Utah. Michigan can be the first to drive this invader from her territory.

To L. Brown, M.D. Journal A.M.A. June 12, 1915. credit is given for extracts printed in italics.

Correspondence

Detroit, Mich., June 1, 1915.

To the Editor:

In answer to Dr. Wood's request to frankly state what caused the trouble, I will say that the tying of the appendix (evidently with catgut, although it is not stated so) was the cause of the whole trouble. If the stump would have been buried with a Lembert, it probably would not have occurred. Some people eat up catgut very fast, before good adhesions can take place. The drainage tube is useless as a rule. I saw just such a case where the operation was simply for the appendix quite a few years ago, when the fad of simply tying the appendix and cauterizing the end was first instituted. This may work when you use silk for a ligature, but certainly not with catgut. I never tie the appendix myself, I cut it off and then sew muscles to muscle, then cover it with peritonuem, and finally depress and bury it all with Lemberts sutures.

Yours very truly,

J. H. CARSTENS.

Mohawk, Mich., June 18, 1915.

Editor: *The Journal*.

In the June number of the *Journal of the Michigan State Medical Society*, under the heading of "Opinion Solicited," you asked a certain question.

I would offer the following explanation of why the patient's condition became one of extremes so suddenly. In automobile phraseology, is it not more than probable that there was a "blow out" at the seat of operation for removal of the appendix, due to defective ligation of the stump.

This, to some degree, illustrates the advisability of invaginating all stumps when feasible, I am,

Respectfull yours,

N. S. MACDONALD, M.D.

Deaths

Dr. W. M. Carling of Battle Creek died May 30, 1915. Dr. Carling has been a member of the Calhoun County Medical Society since 1911, when he came to this state from Denver.

Dr. D. E. Fuller of Hastings, where he had practiced medicine since 1881, died May 13th. He was graduated from the University of Buffalo in 1878, and has been a member of the Michigan State Medical Society since 1894.

Dr. Croney's Specific for Epilepsy.—This Epilepsy "cure" is sold on the mail-order plan for Dr. James T. Croney of Columbus, Ohio. Examination in the A.M.A. Chemical Laboratory showed it to be a solution containing ammonium bromide and potassium bromide as essential constituents, containing bromide equivalent to 169 grains potassium bromide per dose of two teaspoonsful (2 fluidrams). Like other epilepsy "cures," Croney's Specific for Epilepsy is a bromide mixture and is both worthless and dangerous (*Jour. A.M.A.*, April 17, 1915, p. 1344).

State News Notes

WANTED—Position. Desire to become associated with Surgeon as assistant or as Internist in Office, General or Private Hospital Practice. Graduate A plus college, Hospital experience, five years general practice. Modern and reliable in every way. Age 33. Married. Can furnish best of credentials and will expect same. Address Internist, c-o The Journal.

FOR SALE—Wappler Portable Coil in perfect condition. Bargain. Address Journal.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE.

Notes on Ann Arbor Meeting, June 9, 1915.

Detroit Examination, May 27, 28, 29, 1915.

Candidates for primary examination (1st two years of course)	51
Candidates for final examination (2nd two years of course)	40
Candidates for primary-final examination (4 years' course)	9

Total 100

One candidate, conditioned in Pathology, wrote on that subject.

The following medical colleges were represented:

Detroit College of Medicine and Surgery...	95
Toronto University, Medical Department...	2
Western University, London, Ont.	1
University of Michigan, Med. Dept.	1
University of Illinois, Med. Dept.	1

Total 100

Ann Arbor Examination, June 8, 9, 10, 1915.

Candidates for primary examination (1st two years of course)	50
Candidates for final examination (2nd two years of course)	22
Candidates for primary-final examination (4 years' course)	38

Total 110

The following medical colleges were represented:

Department of Med. & Surg., Univ. of Mich.	87
Homeopathic College, Univ. of Mich.	16
University of Louisville, Kentucky	1
Detroit College of Medicine and Surgery ..	1
University of Pittsburgh	1
University of Pennsylvania	1
Rush Medical College, N. Y.	1
Georgetown University	1
Eclectic Medical College, Ohio	1

Total 110

HEARING, RECANCELLATIONS OF LICENSES.

Dr. Wm. L. Baker, Detroit.

Licensed by the board June 12, 1900, and convicted in Recorder's Court, Detroit, Dec. 1, 1914, of unlawfully prescribing cocaine and heroin for other than legal and legitimate therapeutic purposes. Appeared before board to show cause why his license should not be cancelled. The Police Department of

Detroit certified to the good behavior of Dr. Baker since charged and convicted with the offense, and recommended leniency. His case was postponed one year, during which period he is on probation.

Dr. Charles J. Beaver, Mancelona.

Licensed by the board March 22, 1900. Appeared before the board to show cause why his license should not be cancelled, owing to his conviction in the United States Court October 12, 1914, of unlawfully prescribing liquor. It was shown that Dr. Beaver had been convicted upon a legal technicality, and the case against him was consequently dismissed.

Dr. Arden N. Howe, Boyne Falls.

Licensed by the board March 22, 1900. Convicted in the United States Court of prescribing illegally. Case similar to Dr. Beaver's. Case dismissed.

Vladimir Maczulski, Detroit.

Convicted in Recorder's Court, Detroit, April 15, 1915, of fraud and perjury in connection with obtaining a certificate of registration from the board. Also convicted in Albany, N. Y., May, 1914 of practicing medicine without a license. Certificate of Registration revoked.

Dr. John A. McDowell, Detroit.

Licensed in Michigan under the 1883 Medical Act, and re-registered under the 1889 Medical Act, March 22, 1900. Graduate of Rush Medical College, 1886. Convinced in Recorder's Court, Detroit, of violating the Medical Law, by being habitually addicted to the use of morphine and cocaine. Served five months in the Detroit House of Correction. License cancelled.

Dr. Andrew B. Spinney Smyrna.

Registered March 22, 1900, under re-registration clause. Graduate of Western Homeopathic Medical College, Cleveland, O., 1859, also "years of practice." Convicted of illegal advertising in Circuit Court of Ionia County, Nov., 1914. Also waiting trial upon similar charge in Oakland County. Case adjourned to October meeting of the board, pending result of trial upon recent charge.

REGISTRATION UNDER CHIROPODY ACT, WHICH WILL BECOME EFFECTIVE NOVEMBER 25TH, NEXT.

Application blanks in connection with the registration, examination and licensing of the Chiropractors were officially indorsed. Appointment of Chiropractic examination committee postponed until the October meeting of the board.

COMMITTEE ON STANDARD AND COLLEGES.

Dr. F. C. Warnshuis of Grand Rapids, appointed to fill the vacancy caused by the death of Dr. Austin W. Alvord, of Battle Creek, succeeds Dr. Alvord as chairman of this most important committee. Dr. Warnshuis' activities in connection with the Editorship of the *State Medical Journal*, which affords unusual opportunities of contact with and knowledge of medical colleges and their standards, will undoubtedly be of great benefit to the board and the profession in the future. This committee has in the past obtained national recognition through its original methods of standards and administration of such standards. It will undoubtedly maintain its reputation through its present chairman.

CONDITIONS.

The following rule was passed covering conditions in medical courses in recognized medical colleges, i. e.

Maximum conditions allowed in one year—one major and one minor, or two minors. Major condition, may be divided into minors, when the major subject is extended in course further than one year. All conditions should be removed prior to advance in succeeding year, and should not be extended beyond January 1st of such year.

Major subjects: Anatomy, Physiology, Chemistry, Pathology, Practice, and Surgery.

Minor subjects: Histology and Embryology, Bacteriology, Preventive Medicine, Medical Jurisprudence, Eye, Ear, Nose and Throat, Obstetrics, Gynecology, and Materia Medica and Therapeutics.

In examination, majors are ten question subjects, and minors are 5 question subjects, and are marked on the scale of one to ten, each question.

The President, Dr. LeFevre, and Chairman, Dr. Warnshuis of the Standard and College Committee, were authorized to investigate the curriculums of Harvard Medical College and the College of Physicians and Surgeons of New York (Columbia University), which have recently undergone some radical changes.

B. D. HARISON, Secretary.

The Upper Peninsular Medical Society will hold its annual meeting August 4 and 5, at the Soo. Dr. J. G. Turner of Houghton is the President and Dr. R. Bennie of the Soo, Secretary. These meetings have always been extremely interesting and profitable. It is sincerely hoped that every physician of the Upper Peninsula will avail himself of the opportunity and not forego these several sessions.

Dr. Angus McLean, of Detroit, Mich. has been appointed Chief Surgeon of the Henry Ford Hospital which will open in about two weeks.

The hospital at the present time has 100 beds and extensions will be made for a 2,000 bed hospital, all of which will be private rooms.

T. G. H. McDonald, formerly with Kuhlman & Co. and later with the Victor Co. died in Grand Rapids May 29th from multiple neuritis. Mr. McDonald had an extended acquaintance among the profession to whom he was familiarly known as "Mac."

Dr. M. L. Holm of Lansing, State Bacteriologist, has not resigned as reported in our last issue. The Doctor will continue in office at Lansing. Dr. A. A. Spoor who was reported as his successor has been tendered the position at the head of the Board of Health laboratory in the upper peninsula.

The laboratory of the State Board of Health in the upper peninsula will be located in the Michigan College of Mines. Quarters have been provided in the Chemistry Building. Dr. A. A. Spoor will be in charge.

The marriage of Dr. Homer Ramsdell and Miss

Charlotte Sweetman, daughter of Dr. J. L. Sweetman of Manistee occurred June 30th, at the home of the bride. Dr. and Mrs. Ramsdell will make their home in Manistee.

At a recent meeting of the Michigan Commandery of the Loyal Legion, held in Detroit, Dr. A. Vander Veen of Grand Haven was elected Commander for the ensuing year.

Dr. Geo. E. Horne of Detroit has located at Entrican, where he has taken over the practice of Dr. A. W. Woodburne.

Mercy Hospital at Muskegon graduated five nurses. Dr. G. L. Le Fevre presented the graduates with their diplomas.

The Battle Creek Sanitarium graduated a class of 47 nurses. Dr. Kellogg presented the diplomas to the nurses.

The Detroit College of Medicine and Surgery graduated a class of 46 at the 47th Annual Commencement held June 1st.

The Medical Department of the University of Michigan graduated a class of 43 at its annual commencement exercises.

Dr. W. T. Dodge of Big Rapids has been appointed local surgeon for the G. R. & I. railroad to succeed the late Dr. L. S. Griswold.

Dr. H. B. Bucklen of Baraga secured a verdict of no cause for action in a malpractice suit recently instituted against him.

Dr. R. J. E. Oden of Cadillac and Miss Olga Wahlquist of Minneapolis were married June 8 at the home of the bride.

Dr. C. M. Williams, of Alpena, is doing post-graduate work at Ann Arbor.

Dr. A. W. Woodburne of Entrican has located in Hastings.

Dr. G. W. Lowrey has again resumed practice after an extended illness.

Dr. Thomas F. Bray of Reed City sustained serious injuries when his auto was struck by an engine.

Dr. and Mrs. Geo. S. Williams of Muskegon are enjoying an extended vacation in the west.

Dr. E. L. Martin and Dr. C. R. Keller of Maple Rapids have formed a partnership.

Dr. P. M. Vandenberg has been elected city physician of Grand Haven.

A Good Health Week was held in Escanaba during the week of June 27.

Dr. T. P. Pomeroy of Reed City sustained serious injuries when his team ran away.

Dr. and Mrs. W. J. Smith of Cadillac are on a five weeks trip to the Coast.

Dr. H. S. White of McBain is pursuing a three months course at Harvard.

The new Cheboygan Hospital was opened June 1st. Dr. W. R. Stringham is the proprietor.

County Society News

CALHOUN COUNTY

Etiology of Goiter,

Dr. Roy H. Baribeau.

Medical and Surgical Treatment of Goiter,

Dr. A. E. MacGregor.

Preliminary Report of the Goiter Committee,

Dr. Wilfrid Haughey.

GRAND TRAVERSE-LEELANAU

The regular meeting of the Grand Traverse-Leelanau Society was held on Tuesday evening, June 1st, at Doctor Wilhelm's office. The meeting was called to order at 8:30 by the President, Dr. J. F. Slepicka.

Dr. F. P. Lawton presented a patient who had had extensive deep burns of the lower extremities. Following the presentation of the case Dr. Lawton gave a talk on the treatment of burns, calling attention to the difficulties encountered in the care of these cases. A general discussion followed.

Dr. E. B. Minor read a very interesting paper on tuberculous meningitis, and gave a report of a case. A general discussion followed.

Louis N. Yerkes, M.D. of Elk Rapids and Henning V. Hendricks of the Traverse City State Hospital were elected to membership.

The Society will have a picnic for members, their families and friends in July.

W. D. MUELLER, Secretary.

KALAMAZOO COUNTY

Tuesday, May 25, 1915, 9 a. m. at one of the Hospitals.

Surgical Clinic—Harelip and Cleft Palate Cases.

Dr. Truman Brophy, Chicago, Ill.

Luncheon at The Burdick Hotel at 12 noon.

Academy of Medicine Rooms, Public Library Building, 1:30 p. m.

1. Surgery of the Palate,

Dr. Truman Brophy, Chicago, Ill.

Discussion opened by Dr. C. J. Lyons, Jackson.

2. Some Experiences with Surgical Treatment of Carcinoma of the Stomach,

Dr. C. G. Darling, Ann Arbor.

Discussion opened by Dr. A. L. Robinson, Allegan.

May 25th the Academy of Medicine convened in regular session with Dr. Frederick Shillito in the chair.

Dr. Brophy gave a most interesting and graphic clinic at the Borgess Hospital in the morning and a demonstration, by lantern slides, at the Academy

rooms of his methods of dealing with harelip and cleft palate. At a glance one is convinced of his mastery, skill and sincerity. He did four or five operations—two cleft palate (third degree, according to his classification) one harelip, (second degree), two repair operations to overcome serious defects in prior operations in the hands of less skilled, who had repaired the loss of contiguity but left twisted and flattened nose.

One great advance is the use of lead plates to hold the freed soft parts in place, prevent pressure of pulling out of the silver-wire-stay sutures. The use of non-absorbing suture material such as horse-hair for the fine coaptation of the edges of the wound, silver wire for main stay and lead plates made for the maximum of aseptic surgery and minimize possibility of infection. A most excellent step is the use he makes of soft suture material to place the silver wires. This is a great help as any one knows who has tried to sew with silver wire in the mouth. One of the greatest contributions is the elimination of the alveolar lateral incision. This he shows is not only needless but does away with the severing of important blood supply, cutting of the nerve supply and palatal muscles and makes for the preservation of functions of speech and deglutition. It also minimizes possibility of tissue necrosis. Dr. Brophy's handling of the worst deformities—those protruberant premaxillae harelip—is a real revolution and instead of sacrificing incisor teeth and deforming the arch, he preserves the one and conserves the other. Some cases defy detection either in speech or beauty of arch presentation that anything had ever been wrong.

In a word he has added so much and made it so clear that one wonders that it had not before been done. It is made as simple as Columbus' demonstration of standing an egg on its head.

Dr. C. G. Darling of Ann Arbor presented a paper on "Some Experiences with Surgical Treatment of Carcinoma of the Stomach." His paper was concluded by the following remarks: "When the liver is invaded, no operation should be performed unless for relief of the complete obstruction for a short time. When the coeliac glands are enlarged but still a possibility of removal and the liver is apparently free, a gastroenterostomy may be performed to relieve obstruction provided the patient is not too far reduced by starvation and the hemoglobin has not suffered too much.

When you are sure that you are dealing with an ulcer of the pyloric portion that is causing retention a gastroenterostomy is indicated. When in doubt of sure carcinoma remove the diseased portion and repair damages. This repair usually means some form of gastroenterostomy as I will explain later.

Results depend more on the after-treatment than the operation. First, believe in your operation and then have the patient believe in it. The stomach may work at once but do not put it to the test for twenty-four hours. This rule has exceptions. Water is administered per rectum; if for any reason it is not retained you may begin to give it in teaspoonful doses. Beer may be given by mouth and rectum at the same time. The fowler position is maintained for several days. It places the stomach and lessens danger of pneumonia. Morphine should not be used except in extreme cases.

A properly trained patient does not need any medicine; since we stopped using it our patients do better. When a patient dies it is usually due to some fault of technic for the operation can be only as strong as its weakest point. One must watch for hemorrhage or loss of blood supply to a part. Thrombosis from pricking or injuring a vessel with forceps is a greater source of danger than is commonly supposed. Thrombosis and embolism of mesenteric vessels may cause death and should be guarded against with great care.

Cancer of the stomach can sometimes be cured by operation. Many times it may relieve pain and prolong life. It is not yet well understood but better results will come when diagnosis and technic are improved."

On June 8th the regular session of the Kalamazoo Academy was held and the program was opened by report of a "Multiple Thrombi" by Dr. L. V. Rogers of Galesburg.

Cerebral thrombosis, pulmonary infarct on the left and right side of lungs, femoral thrombosis in both lower extremities of which all occurred on one individual were described in detail. The diseases was ushered in by vomiting and diarrhea alternating with constipation, flatulence and discomfort in abdomen. History of ulcer could not be obtained and mesenteric thrombosis was not possible for want of pain. Since the illness diarrhea alternating with constipation continues. Thrombosis in the lower limb frequently follows carcinoma of the stomach.

Causes of thrombosis formation: First, there is an increase of the plasmin in the blood spontaneously coaguable fibrin which is associated with cachectic states. Secondly, there is slowing of the blood stream in degeneration of the heart muscle in cardiac paresis which occurs after severe illness and fever and after some hemorrhage. Thirdly, the condition of the vessel wall, either that it has been injured or is the seat of disease such as atheroma, syphilis, varicosity has a direct relation to cause of the thrombi. These thrombi were metastatic and infective nature though the tendency to pus formation was never present.

Dr. A. W. Hewlett of Ann Arbor treated the subject of "Nitrogenous Retention in Chronic Nephritis" in a very clear, practical manner. The following is a brief report of his remarks.

"It is well known that one of the important functions of the kidney is the elimination of nitrogenous wastes from the body. The amount of such wastes eliminated is determined primarily by the intake of the protein and other nitrogenous food. Determinations of the amount of urea in the urine are therefore without significance in chronic nephritis, except where a considerable amount of urea is added to the food and the rapidity with which the excess is eliminated is determined. Nitrogenous retention is best determined by an examination of the blood. Such determinations can now be performed on small amounts of blood and without great difficulty. Slight retentions are common in chronic nephritis. Marked retentions are rather uncommon. The latter are accompanied by a group of asthenic symptoms and particularly, by muscular and mental weakness and fatigue, by loss of appetite and by anemia. Nitrogenous retention is not the direct cause of uremic convulsions, which according to Foster is due to a

specific poison. Nitrogenous retention bears no constant relation to the amount of albumin in the urine to the height of the blood pressure or the amount of edema. It runs roughly parallel to an inability on the part of the kidneys to excrete test dyes and particularly phenolsulphonephthalein. The main clinical significance of marked nitrogenous retention is the unfavorable prognosis in chronic nephritis. In acute nephritis and in prostatic obstruction the nitrogenous retention even when marked may disappear as the primary disease improves or is removed. In slight retentions the urea content of the blood may be reduced to the normal by restricting the protein intake. In marked retentions such restriction will reduce the urea in the blood but not to the normal limits."

C. B. FULKERSON, Secretary.

ST. CLAIR COUNTY

The regular meeting of the St. Clair County Medical Society was held June 3 at the Hotel Harrington, Port Huron.

The invited guest was Dr. Wm. Donald of Detroit. His paper was on "Irregularities of the Heart."

After dinner, at which eighteen members sat down, the evening was devoted to a social time.

R. K. WHEELER, Secretary.

WAYNE COUNTY

Monday, May 17, 1915 Dr. C. Hollister Judd gave a talk from illustrations and lantern slide pictures of the common abnormalities of obstetrics and covered most of the important problems met by the general practitioner in that work.

Monday, May 24—Surgical Section.
"Some Phases of Appendicitis."

Dr. Hugo O. Pantzer, Indianapolis.

Discussion opened by Drs. Max. Ballin, W. P. Manton, L. J. Hirschman.

Monday, May 31—General Meeting.
"Static Deformities, Emphasizing the Frequency of their Occurrence and the Importance of their Early Recognition."

Dr. Charles Ogilvy, New York.

Discussion opened by Drs. Daniel La Ferte, W. E. Blodgett, Dr. F. C. Kidner.

Book Reviews

THE INTERVERTEBRAL FORAMINA IN MAN. An atlas and text of the anatomy and histology of the human intervertebral foramina, including their contents and adjacent parts, with special reference to the nervous structures. By Harold Swanberg member American Association for the Advancement of Science. Author "The Intervertebral Foramen." With an introductory by Pro. Harris E. Santee Department of Anatomy, Chicago College of Medicine and Surgery. Author "Anatomy of the Brain and Spinal Cord;" etc. Illustrated by 11 original, full-page engravings. Crown

8 Vo. of 95 pages, bound in silk cloth. Price \$1.75. Chicago Scientific Publishing Co., Publisher, 221 South Ashland Boulevard, Chicago, Ill., U. S. A.

This book is an entire new work and presents the morphology of all of the intervertebral foramina and adjacent parts in man.

Actual photomicrographs are shown of the human intervertebral foramen and surrounding tissues. The anterior and posterior nerve roots, spinal ganglion, spinal nerve proper, anterior and posterior primary division of spinal nerve, white and gray rami of the sympathetic and the ganglia of the sympathetic gangliated cord can all be clearly seen, and their relations to fat, fibrous tissue, blood vessels, lymph nodes, bone, etc. noted. The size and shape of the intervertebral foramina in each region is clearly shown and described. The sizes of the intervertebral foramina as compared to the spinal nerves is also given in detail. The boundaries of the intervertebral foramina in each region are given; the thickness of the intervertebral fibro-cartilages throughout the entire column is explained; the complete anatomy of all the arteries and veins which pass through the foramina is given. In fact, everything pertaining to the morphology of the intervertebral foramina, including their contents and adjacent parts, is presented, and this in an unusual clear, concise, and instructive manner.

The importance of an intricate knowledge of these apertures need hardly be emphasized. A tremendous and ever increasing amount of attention is being given to spinal therapeutics. Various theories are being profounded, all of which are based upon some pathologic changes occurring in the intervertebral foramina or adjacent parts. It is not the purpose of this book to argue the case one way or the other but to give the facts as they actually exist. The reader will then be in a better position to draw his own conclusions and can then formulate his opinion concerning the theories of nerve pressure, irritation or other pathologic phenomena occurring in the intervertebral foramina or adjacent tissues as a causative factor in the disease.

This book will be invaluable to you, because it clears up a doubtful field, presenting facts nowhere else to be found in print and which are of estimable value to every progressive, truth-seeking, physician.

THE PRINCIPLES OF BACTERIOLOGY. A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology and Director of the Laboratory of Hygiene, University of Pennsylvania. 12mo, 650 pages, with 113 illustrations, 28 in colors. Cloth, \$2.75, net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

While carefully preserving the characteristics of inclusiveness and of brevity, clarity and scientific accuracy of statement, which established the popularity and usefulness of Abbott's Bacteriology in its previous editions, the author has accomplished this revision with such thoroughness that the ninth edition is substantially a new work. The recent remarkable developments of bacteriological science have necessitated so many changes in the text that the author has embraced the opportunity to review the whole subject from the most modern viewpoint.

to include all recent advances of proven value, eliminate all obsolete and unessential material, and to greatly elaborate his work.

Concise statement, clear expression and the elimination of theoretical considerations in favor of essentials constitute this a working manual whose usefulness will impress itself more and more on the practitioner or student as he avails himself of its guidance. Every step in every process is made clear. The details of laboratory equipment and the use and value of apparatus receive careful attention. The minutiae of laboratory technic are presented in complete but not burdensome detail.

Historical notes which are not too profuse, stimulate interest in the study, and aid in the comprehension of the subject by showing the steps in the development of modern Bacteriology. The author's emphasis on the applications of Bacteriology in Etiology and Preventive Medicine is a point of peculiar value. The sections dealing with the physiological functions of bacteria are most enlightening, and the latest knowledge of complement fixation, hemolysis and the reactions of immunity is adequately presented. The diagrammatic illustrations accompanying this section are a substantial aid to its understanding.

This is a simply expressed but thoroughly scientific presentation of the proven and useful in a field where the seeker after information is often confronted by a baffling mass of abstruse and often theoretical details.

DISEASES OF THE DIGESTIVE ORGANS. With Special Reference to their Diagnosis and Treatment. By Charles D. Aaron, Sc.D., M.D., Professor of Gastro-enterology in the Detroit College of Medicine and Surgery; Consulting Gastro-enterologist to Harper Hospital. Octavo, 790 pages. Illustrated with 154 engravings, 48 roentgenograms and 8 colored plates. Cloth, \$6.00, net.

Scientific medicine has achieved some of its most notable recent triumphs in the field covered by Dr. Aaron. Modern research; improved facilities for observation; the development of roentgenographic technic and the perfection of the various tests and reactions have added immensely to our store of useful knowledge. In a work of extraordinary scope and equal value all this material is presented by Dr. Aaron in a form which makes it immediately available. The author's work is notable not less because of the vast amount of material handled than for its clear presentation; his emphasis on diagnosis and treatment and the absolute elimination of abstract theories in favor of the practical proven and useful.

Recognizing the tendency to isolate the consideration of diseases of the digestive organs from the great body of internal medicine Dr. Aaron is at pains to point out the direct and vitally important connection and interdependence of the functions of the digestive tract and of the other organs and between gastro-enterology and all branches of internal medicine.

The diagnosis and treatment of digestive diseases are clearly set forth and to give clarity to the handling of the subject the material and conclusions are presented in accordance with the physiologic path

of the digestive tract beginning with oral diseases and proceeding to the consideration of those of the pharynx esophagus, stomach, liver, gall-bladder, bile ducts, pancreas, small intestine, vermiform appendix, colon, sigmoid flexure, rectum, and anus.

Recent progress in the study of internal secretions; the various tests and reactions; qualitative and quantitative analyses are disclosing the condition of intestinal functions; improved methods in the examination of feces; test meal technic and findings; dietetics; mineral-water therapy; hydro-therapy; mechano-therapeutic agencies; oral sepsis as a predominating factor in the etiology of obscure gastrointestinal disorders; duodenal feeding, and the functions of the liver and pancreas in metabolism receive most enlightening consideration from a distinctly advanced viewpoint. The importance of the roentgen ray in limiting the necessity for exploratory laparotomy and in increasing the exactness of diagnosis is dwelt on in a useful chapter, which embodies the most recent advances in roentgenographic science as applied to this department of medicine.

While the author's viewpoint is that of the internist, and he has emphasized medical treatment, he gives adequate consideration to indications for surgical intervention. The attention afforded the physiology of digestion; methods of examination; the significance of findings; the technic of various treatments; therapeutic agencies and the minute consideration of symptoms, diagnosis and treatment in each disease give to this work an encyclopedic completeness. The author is not only a master of his subject but of its presentation. His work will be equally valuable as a working manual and reference volume for the practitioner or a complete treatise for the specialist.

This volume is bound to meet the wants of many. It is sure to be of valuable aid in reach a diagnosis and then institute the proper treatment. The author's large acquaintanceship in Michigan causes us to feel that his effort will be appreciated by his professional fellows in his home state. We commend the volume unreservedly.

OUTLINES OF INTERNAL MEDICINE. For the Use of Nurses. By Clifford Bailey Farr, A.M., M.D., Instructor in Medicine, University of Pennsylvania; Assistant Visiting Physician, Philadelphia General Hospital; Pathologist to the Presbyterian Hospital. 12mo., 408 pages, illustrated with 71 engravings and 5 plates. Cloth, \$2.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

As a basis for a systematic training school course in Internal Medicine or as a reference volume for the graduate nurse, Dr. Farr's work has been most logically planned and perfected with a discriminating grasp of the requirements and limitations of a nursing text-book.

He has conscientiously avoided the somewhat frequent practice of making a rudimentary medical work masquerade as a nurse's text-book merely by the insertion of a few general observations on nursing. Confining himself strictly to the consideration of Internal Medicine, he presents it with the single purpose of meeting the nurse's needs. In selecting his material, in order to emphasize the practical, he has wisely drawn largely on his per-

sonal experience in hospital work, although he has referred frequently to the most authoritative textbooks for supplementary data.

Believing that an intelligent grasp of the nature of the various diseases, their symptoms and treatment, is essential to the development of nursing efficiency, the author has presented every vital fact in detail but has limited his consideration to essentials and has emphasized those points which will be most useful to his readers. His work is at once comprehensive, readily understood and stimulating to a full conception of all that is comprised in the term "Internal Medicine." The nurse who conscientiously studies this volume can hardly fail to acquire a useful appreciation of the significance of symptoms, of the purpose and technic of treatment and of the nature and causation of the various diseases.

The plan of the work, while novel, is most logical, and from a didactic standpoint presents many advantages. It is divided into ten "Parts," eight dealing with diseases of the various systems and two with harmful agencies (Physical, chemical and bacterial) invading the body from without. In each "Part" general considerations are first taken up, to be followed by sketches of the more important diseases, including briefly their etiology, and in more extended detail their characteristics, symptoms and prognosis, with frequent suggestions for emergency procedure. In appropriate sections much information on dietics of special and general value is presented. The sections dealing with infectious diseases are peculiarly useful both from the logical grouping of topics and the extended consideration of prophylaxis and from the clear insight afforded into serum and vaccine therapy, infection and immunity, and the application of the principles of immunology in diagnosis. A useful section gives in detail the relative frequency of diseases and their relative mortality.

Realizing that an understanding of technical terms is of prime importance, the author makes no effort to avoid their use, but is at pains to supply clear definitions and explanations. While the consideration of every topic is ample and suggests no abridgment, the author's purpose is plainly to develop the student as a well equipped nurse and not as an internist.

Miscellany

If you knew a house was on fire and you failed to report it you would expect to be regarded as an enemy of your city. You would be just as much an enemy if you failed to report a known case of leprosy or tuberculosis. So declare our state laws. The United States Public Health Service says: "No health department, state or local, can effectively prevent or control disease without knowledge when, where, and under what conditions cases are occurring.

While the intent of the laws is clear—information and protection—it is a fact that until recently

many physicians did not report all cases of tuberculosis of which they knew. One class of men simply were not up-to-date and could not make diagnosis so as to satisfy themselves. When the average man can detect the disease it is too far advanced for effective help. Another class of physicians still believe it is not wise to tell the patient the truth, lest he be discouraged about himself. When consumption was supposed to be incurable there may have been more excuse for such an attitude than there is now.

It is to the doctor's advantage, the patient's advantage and the advantage of society for the truth to be known. The doctor who withholds the truth will be found out later and so lose his reputation for scientific ability. The patient should know so that he may begin the cure. His family should know in order to save themselves from general infection. And the community should know because the spread of the disease must be stopped at once.

With some exceptions still lingering Michigan physicians generally are reporting cases of tuberculosis to the authorities. They should all avoid the extremes of being alarmists and concealing the grim facts. Scientific truth is the only course. And public sentiment must back up this course, so that the physician who makes prompt reports shall be regarded as a benefactor rather than a cause of disagreeable annoyance. The sooner the fire department knows where the fire is, the sooner the fire can be put out.—G. R. Press.

THE ABBOTT ALKALOIDAL COMPANY CHANGES ITS NAME.

The Abbott Alkaloidal Company has issued the following statement:

Owing to the rapid expansion and broad generalization of its business as manufacturing and importing chemists, The Abbott Alkaloidal Company has deemed it expedient to change its incorporate name to The Abbott Laboratories, and has done so. No change in personnel or policies. Our business is to serve the professions, through the general channels of trade, or direct (at the most convenient point) as best serves their convenience. Price list on request.

For a number of years, this company has been broadening out and enlarging the scope of its activities. As most readers of this *Journal* will remember, some four or five years ago it entered the biologic field and now puts out a full line of serums, antitoxins, vaccines, and similar products, both for human and veterinary practice. Also, it is engaged in the manufacture of pure chemicals and is constantly adding to its already large line of pharmaceutical products, many of which are not distinctively alkaloidal.

It is only fitting and proper, therefore, that a name should be adopted, which is broad enough to cover all the activities of this progressive, up-to-date American enterprise.

The Journal

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Vol. XIV

GRAND RAPIDS, MICHIGAN, AUGUST, 1915

No. 8

Original Articles

THE MECHANISM OF URINARY OBSTRUCTION IN RELATION TO VARIATIONS IN RENAL FUNCTION.*

H. W. PLAGGEMEYER, M.D.
DETROIT, MICH.

The frequency with which one encounters partial or complete interference with the free act of urination, and the importance of the local and remote sequellae of such an untoward condition, are being more and more vividly impressed upon the mind of the active practitioner of the present day. In the past we were inclined to relegate a large proportion of these cases, which were not frankly due to prostatism into the class of "inflammation of the bladder," and to treat them purely from a medical standpoint, especially in the cases occurring in men under 40 years of age.

In the light, however, of more recent and more exact findings in the domain of urology, the relative importance of conditions *at the bladder neck* in regard to urinary obstruction is worthy of consideration.

It is not my intention to take up an exhaustive study of all the many factors which might adversely affect the outflow of urine. Many of these influences are obvious and do not call for differential study. Thus, we have all seen cases of persistent phimosis where the outlet at the meatus is so small that the urine will only come away drop by drop; in persistent cases of this type the patient often finds himself possessed of a supernumary bladder formed by his own prepuce which bulges out into a large sack on urination, and which he empties at leisure by pressure from without. Dorsal incision followed by circumcision of course relieves this situation at once, usually without any involvement of the tract higher up.

In regard to conditions of hypospadias with marked right-angled deflection at the external meatus, it has been found in a large number of cases, that the partial obstruction to free outflow did not cause enough back pressure in the kidneys to appreciably impair function.

Contraction of the calibre of the urethra due to stricture or to pressure from different causes outside its walls have all been discussed at length by many observers, and it has recently been shown that tumors of the verumontanum, in themselves rare in occurrence, have not caused enough back pressure to affect renal function, this being due in these cases to the natural distensibility of the roof of the urethra, which gives way under the pressure of the urinary stream permitting a normal outflow, or one so closely within range of normal that with very mild compensatory hypertrophy of the bladder wall, the ureters and kidneys are protected from back pressure and the function of the latter remain normal.

There is, however, one condition in the prostatic urethra to which I should like to call attention. I have seen two such cases within a year, one in a child of five, and another in a boy of sixteen, and still a third case has been reported by Lowsley of New York within the past few months. To the best of my knowledge these are the only cases in the American literature though European literature swarms with them, eighteen different clinics having reported one or more cases.

The type of case to which I refer is not commonly recognized and yet from the number of cases reported by different observers abroad, it cannot, in actual fact, be so very uncommon if looked for, and might be worthy of brief description.

Ordinarily the verumontanum, which is formed by the ingrowth of the Wolffian and Mullerian ducts and their accompanying muscular coats and which lie on the floor of the prostatic urethra becomes smaller and smaller at its lower portion, where its fibres finally disappear by spreading out on the floor of the

*Read before the Kent County Medical Society, April 24, 1915.

urethra. In the type of case referred to, some of the tissue of the verumontanum is disposed in the usual way, but a considerable portion of it continues down to the membranous urethra, where it divides into two portions and then attaches itself intimately to the wall of the urethra leaving only a very small slit-like opening on the floor of the urethra.

The manner in which the division into two rather thick membranous bands usually occurs, and also the fact that the entire structure is more or less dome shaped when seen at autopsy make the term "diaphragm" suggested by Hugh Young seem most appropriate in referring to this anomaly. Almost complete obstruction to urinary outflow is caused by this unusual arrangement, and in the cases I have seen, there was such a great back pressure on the bladder, ureters and kidneys, that the function of the latter was practically nil, only a trace of phenol-sulphonphthalein appearing at the end of two hours with high blood urea content.

Of course in such cases of congenital malformation expectation of life depends upon the actual amount of stricture caused. If the opening were large enough, the bladder might be able to compensate for many years and thus protect the kidneys from back pressure, but in all the recorded cases, the opening has been so small that the cases presented early in life and rarely lived to the age of fifteen before kidney function failed entirely, with death from suppression.

Usually in these congenital cases the dilatation of the urinary tract must begin, at least theoretically, as soon as any considerable amount of urine is secreted by the kidneys. On account of the obstruction to urination, the bladder fills up, and its continual contraction in an attempt to empty itself, causes an enormous thickening of its wall, and by hydrostatic pressure of long standing dilates the vesical sphincter to such an extent that it becomes absolutely ineffectual, only a small ridge being left to mark its site: the posterior urethra thus becoming cone shaped and directly continuous with the bladder lumen. This condition simulates that found in tabes, but the presence of the obstructing veil would serve to clarify the diagnosis.

The bladder itself, in these cases, usually develops an extensive hypertrophy of the wall, instead of undergoing a thinning out process, and *this is due to the fact that the pressure is gradual and long continued, instead of sudden and of short duration.* The ureters and

pelves of the kidneys apparently do not respond by an extensive thickening comparatively speaking, or at least if they do so, at first, the increase in pressure overcomes such thickening and these structures, being architecturally less competent than the bladder and prostatic urethra, become enormously dilated and thinned out and ultimately complete loss of function ensues. In the hydronephrosis which results, we have the remarkable picture of an organ secreting fluid under a gradually increasing pressure produced by itself, which finally brings about its own destruction.

It is rather difficult to explain why this particular anomaly should occur so frequently, as the point of obstruction in these cases is above the junction of the bulbous and membranous urethra, which is the generally accepted point of division between that portion of the urethra which develops from the entoderm and that which is derived from the ectoderm. It would seem to be, not so much a lack of continuity in the connecting parts, as is seen in congenital cystic kidney, but rather, a mucous hyperplasia—an overgrowth of the wall of that part of the urethra, which having nowhere else to dispose of itself, plasters itself in two half circles, around the circumference of the urethra, forming an almost complete obstruction to the bladder outflow.

Undoubtedly a great many of these cases have advanced to such a degree that there is very serious renal involvement and impairment of function at the time of birth, but since a number of the reported cases lived for several years, it seems most important to urge upon the medical profession that any children who show a urinary output below normal, a dribbling of urine, abdominal masses in the kidney region, or other signs and symptoms pointing to a disturbance of the urinary organs should have a thorough urethral exploration, and obstructions such as the type described, may be relieved by proper instrumental treatments. One practical point to be remembered is that where there is a patent omphalo-mesenteric duct opening, with the passage of urine through the umbilicus, the diagnosis of this type of obstruction is practically made without further examination.

This brings us then to a study of the most important locus of obstruction—about which there has been so much discussion: the bladder neck, that battle ground of urologists for the past five years, and it might be well to consider briefly the differential diagnosis of the several

factors contributing to urinary difficulty at this point, for it is no uncommon thing for a patient to present himself complaining of difficulty in urination or even complete retention, and the examining physician is surprised to find on putting his finger in the rectum, that the prostate seems to be perfectly normal in size. It must be remembered that the prostate, while a frequent offender is not by any means the only source of trouble at the bladder neck, as I shall attempt to show.

Several studies have recently been published on the mechanism of prostatic retention, concluding with the statement that prostatic hypertrophy is not the cause of prostatic retention. The inference is that prostatic hypertrophy may exist without retention, and that the true cause of retention is to be sought rather in the bladder muscle or its innervation, than at the bladder neck. This is what the French school calls prostatism without a prostate.

Two clinical types of prostatic retention may be distinguished: chronic, incomplete or complete retention and acute complete.

It is with the chronic type that one has really to deal, for the elucidation of the mechanism of this condition make the explanation of the acute condition a matter of but a few words.

Prostatic retention represents the interaction of two forces—naturally—viz: the bladder muscle and the obstruction.

Bladder Muscle.—In discussing the action of the bladder muscle, we have to note:

The condition of the muscle itself.

The condition of the nervous system governing it.

The condition of the will.

The Muscle Itself.—Suprapubic cystotomy on an old prostatic often reveals a bladder muscle that grossly resembles "blotting paper," and obviously possesses no contractile force. Quite as often, however, one encounters a muscle with all the microscopie and macroscopie evidence of vitality.

We can all recall many instances of complete cure after prostatectomy in spite of a "blotting paper" bladder: nevertheless, these are a little more liable to incomplete relief than are their brothers with more normal muscle. Indeed an experienced urologist can prophesy with a certain degree of accuracy that the patient with slight infection and less than 100 cubic centimeters retention, but undue urinary irritation and frequency is likely to remain in this condition for some time, for the findings show that the bladder is thick walled and strong, or he

would have more residual. On the other hand the patient who first comes to a physician after his bladder has silently reached chronic, complete retention with overflow will do badly. I spoke a moment ago of patients who already have a slight infection, under the class of those who do well under operation. This is true, for very often we find a bad result on a previously uninfected case which has become infected after operation, while the old stager who has long since been infected, and has acquired a local immunity has an uneventful convalescence.

We may say then, that the progressive weakening of the bladder muscle doubtless is the main agency in the rapidity or slowness with which a patient passes through the first and second to the third stage of prostatic retention. However one must not overlook the influence of the nervous system and the will.

The most striking example of the influence of the nervous system is in tabes.

Here the muscle of the bladder is seriously or completely paralyzed, and the internal sphincter muscle loses its tone, and relaxes, at the same time that the external sphincter shuts down sharply. This causes the posterior urethra to really open up, and become part of the bladder, and with the cystoscope in the bladder the verumontanum is plainly seen lying in the floor of the bladder. Also the catheter in being passed into the bladder, immediately draws water in passing the external sphincter. *This fact alone should always make one suspicious of tabes, and lead one to seek for further signs.*

Koll of Chicago has recently published a series of twenty-five cases, of bladder types which he considers diagnostic of tabes. The three points he brings out as of fundamental importance in diagnosis are:

1. Lateral trabeculation.
2. Wide, rigid ureteral orifices.
3. Thickening of the interureteric ridge.

Koll has not painted the whole picture, I think. The lateral trabeculations, with no trabeculations on the floor, and the gaping uretral orifice are undoubtedly present in practically every case of tabes, but the trigone may present either an interureteric ridge as Koll describes, or may be normal, or may even be atrophied beyond the point of recognition. So the trigonal enlargement is not an invariable finding. However, with a dilatation of the posterior urethra as previously described, and lateral trabeculations with a normal floor, accompanied by wide sluggish ureteral orifices which might, in a way, be compared with the Argyll-Robertson pupil,

the diagnosis of tabes may often be made by the urologist before other findings become positive.

Just what effect this condition alone has on kidney function is difficult to determine for usually in patients presenting this type of lesion, an interstitial nephritis has long ago supervened and the back pressure offered is only another burden added to a pair of glands already functioning below normal. In the type of case accompanied by a raised trigone it has been found that a division of the bar by Chetwood's prostatectomy, or by Young's punch operation usually gives relief, and at this point it would seem appropriate to state that, where there is tabes plus definite prostatic obstruction, prostatectomy is indicated. There will not necessarily be incontinence afterward as many surgeons seem to fear, for it must be remembered that nature has so arranged that the external sphincter muscle takes care of the portal of exit in these cases.

The Will.—The influence of the will upon retention of urine in typhoid and other wasting diseases has been beautifully described by Samuel Alexander. He ascribed retention in such cases to actual muscular weakness combined with weakness of the powers of attention. Doubtless many of us have seen similar cases or at least cases in which, after prostatectomy the patient habitually retains from two to four ounces of urine, whereas if one injects even a mild solution of potassium permanganate or silver nitrate, it is emptied to the last drop. This is well to keep in mind in certain neurotic cases.

It seems fair to state that the strength of the bladder muscle plays a large part in certain cases of prostatic retention: and that if muscular weakness is the predominant cause of retention, removal of the obstacle at the bladder neck, which is the occasion of the retention, is a more delicate matter than when the bladder muscle has retained its strength.

THE ENLARGED PROSTATE.

Let us repeat with Sir Henry Thompson, that not more than half of the men whose prostates are enlarged suffer from prostatic retention, and let me again add that some of those who suffer from so-called prostate retention have no hypertrophy of the prostate. These are the two facts which impress those who deny that enlargement of the prostate has anything to do with retention of urine. But they go too far in their conclusion. It is quite obvious that, in a large number of cases, prostatic retention is

due to hypertrophy of the prostate, and it is equally obvious that in most instances the removal by prostatectomy of the hypertrophied portions of the prostate relieves the retention but this is not always the case.

After going into a seriatim study of all the possible combinations at the bladder neck, one is forced to the conclusion that even the lateral compression of greatly enlarged lateral prostatic lobes probably has little or no effect in interfering with the outflow of urine, for no matter how large the lateral lobes may be, by the very nature of their enlargement, water could pass through between them at the bottom, and the greater the bulging the greater the opening.

THE BLADDER NECK.

It is rather to the floor of the bladder neck that we must look for a solution to the problem. The commoner types of obstruction may be classified as follows:

1. Middle lobe hypertrophy (The prostate has five lobes.)
2. Lateral lobe hypertrophy, without a clinically recognizable middle lobe.
3. General hypertrophy, in which neither middle or lateral lobes are prominent.
4. General hypertrophy, in which middle or lateral lobes or both are prominent.
5. Contracted bladder neck, the so-called fibrous median bar.

Fortunately we are not compelled to go into a seriatim study of these mechanical obstacles to urination. The obstacle is much the same in either case.

If one passes one's finger into the bladder through a perineal opening into the urethra, the prostatic lobes may be felt bulging into the canal laterally, but one is always struck by the fact that the chief obstacle is at the neck of the bladder whether this obstacle is due to prostatic hypertrophy in the form of a middle lobe or bar, or to sclerosis in the form of a contracted bladder neck. One also notes the fact that when the bladder neck is tightly contracted, *this contraction occurs almost wholly at the expense of the floor*, while if only the lateral lobes of the prostate are enlarged the obstacle to the entrance of the finger into the bladder is a veil or bar of bladder neck lifted up between these lateral lobes. No matter what type of pathological entity is present, the finger always recognizes that between it and the bladder, on the *floor* of the urethra there is elevated this abnormal obstruction, and *this obstruction is the mechanical cause of urinary retention*. It arises from the floor and not

from the roof, even in cases of contracture and of lateral prostatic hypertrophy, because the roof of the urethra is more fixed (by the pubo-prostatic ligaments) than is the floor, and cannot be pulled down to form a curtain or veil.

The precise way in which this obstacle interferes with the outflow of urine from the bladder has never been absolutely proved. Unquestionably, it prevents the normal opening of the internal sphincter, thus causing the difficulty in starting the urinary stream. But why does it in so many cases reduce the bladder to a condition of partial retention in which the amount of residual urine is practically constant whether the patient stands upon his head or upon his feet? The explanation of the phenomenon is suggested by the fact that if a bubble of air is injected into the normal bladder this always issues after the last drop of urine is passed. In other words, the bubble floating on top of the urine under the vault of the bladder is the last thing to issue from the bladder in a normal urinary act. Moreover, if the bladder contains thick, tenacious pus delivered from a pyonephrosis, and lying upon its base, this pus will issue at the end of the urinary stream, and immediately ahead of the bubble of air which closed the stream. If there is retention of urine neither the pus at the bottom of the bladder nor the air at its vault are extruded.

To explain these phenomena we must assume, that, as the bladder empties itself, the trigone is somewhat elevated, forming the flare of a funnel, which in a normal bladder begins in the prostatic urethra, and the remainder of the bladder closes down upon this funnel, the lowest and highest points in the bladder cavity lying posterior to the trigone and being emptied last. But when there is retention the funnel is an inadequate one, the bladder neck fails to open as it should, and the result of the effort to squeeze out the last drops of urine is to close the bladder neck. The closure should be interpreted not as a sphincteric gripping, but as the driving of the prominent lower lip of the bladder neck against the upper wall of the prostatic urethra. If the closure were sphincteric a hard push might force it and drive out a few drops more of urine, but inasmuch as it is rather the application in the form of a valve of the prominent lower portion, the harder the patient strains the tighter does the valve close. The only way he can pass any more urine is by relaxing his muscles and permitting the sphincter to open a little. Then another effort

may bring forth quite a flow of urine before the valve flaps shut again.

A most important point to consider at this juncture is the frequency with which one encounters, in pathological specimens, a small encapsulated nodule, usually the size of a very small hazel nut, located just inside the internal sphincter of the bladder, at the point where the trigone dips into the urethra. This enlargement is a hypertrophied condition of a normal gland lying at this point, and described long ago by Albarran. This gland is racemose in type, and, as described by Albarran, is entirely submucous in character, having about a dozen small ducts emptying into the bladder neck just proximal to the ducts of the middle lobe of the prostate. Being purely submucous in character it lies entirely outside the histologic plane of the prostate, and in the process of hypertrophy it surrounds itself with its own fibrous capsule.

We have all been struck many times with the frequency with which after a perineal prostatectomy, there persists a large residual urine, and Young has explained this by saying that in a large number of cases the operator only took out those portions of the gland which come immediately into contact with the operating finger; in this way the hypertrophied portions of the gland which often runs up into the lateral cornua of the prostate cavity, well beyond the corners of the trigone during the very convalescence of the patient, drop down into the lower portion of the fossa left after enucleation and cause secondary obstruction. This is undoubtedly true, but part of the truth lies in the fact that the gland of Albarran is a much more frequent offender than we have previously suspected, and unless due precautions are taken to enucleate this gland also where it is offending, one will, even after deep enucleation of the prostate, be surprised to find that the patient still has a post-operative retention.

Many times has the writer removed this gland, thinking it was a portion of the middle lobe, until it was noted that each time it had to be removed separately after cutting through its individual capsule and shelling it out. Lowsley at Bellevue, went carefully through a series of 354 prostates, microscopically, and in all cases, ranging from 5 years to 70, found that Albarran's enlargement was present in 15 per cent. and that in all cases between 30 and 40 years of age, the enlargement was present in 27 per cent. of cases. It is in this condition then that a very large number of cases of urinary reten-

tion occur, when by the rectum, no enlargement of the prostate is felt, simply because there is no enlargement of the gland present—the cause must be sought through the cystoscope and even then one must not be misled by an apparent normal condition of the lateral lobes, because as before remarked, the prostate itself may have nothing to do with it. With the cystoscope in the bladder this gland may be well made out lying by itself, and behind the place where the middle lobe of the prostate would lie. The fact that its frequency has previously been overlooked is due to the fact that it was usually mistaken for middle lobe hypertrophy.

The strategic position of this enlargement, even when so small as almost to escape attention, lying as it does right in the floor of the opening, renders it, by the same token, an added menace to operative success. For as before remarked, though urine may pass, often with great facility through two greatly hypertrophied lateral lobes the tiniest nub of subcervical enlargement may cause a tremendous residual urine with subsequent alarming symptoms of back pressure on ureters and kidneys, with consequent diminution in function on both sides, and a phthalein reading below normal, with a slow appearance time, and a reading in the second hour as large or larger than the first hour, *giving a long flat curve of output, showing that the kidneys take up their function slowly and with difficulty.* The surgeon is not infrequently surprised to find a persistence of signs and symptoms after a careful perineal removal of a very large prostate, because he has neglected the last but most important step of enucleating this tiny extra-prostatic lobule.

In suprapubic operation this lobule is usually removed with the prostate. It has been argued theoretically that in the anatomically correct enucleation of Bently Squier such an enlargement might possibly be passed outside of and missed by the operator's finger, through the very fact of adhering to the natural plane of cleavage. But I do not think this is so, practically, from the very fact that the ducts empty into the floor of the urethra just proximal to those of the middle lobe with no sharp line of demarcation between them, making it almost impossible to miss them by this method.

Intrinsic hypertrophy of the trigone itself is rare. The writer has four cases, one in which the trigone was three inches in height, giving a typical hour glass bladder. This was divided through the urethra by a specially devised instrument.

Fibrous thickening of the floor of the urethra at the region of the internal sphincter is easily recognizable through the cystoscope as a sharp clearly defined crescentic ridge, and is one of the commonest causes of obstruction in young men, barring the enlargement of Albarran's gland, just spoken of.

In this study I have omitted carcinoma of the prostate, for carcinoma as proved years ago by Geraghty and Boyd, practically never begins anywhere but in the posterior lobe (or more properly lamella) of the prostate, and by the time it has invaded the bladder neck, the diagnosis is made with shocking ease, by the finger in the rectum.

In all of these cases of obstruction the one great point never to be lost sight of is—*what are the kidneys doing in the face of this long continued back pressure?* We are all of us prone to consider the immediate facts in hand, often overlooking the effect higher up, on these most sensitive and delicate glands upon which the major portion of our fluid elimination depends.

Long continued obstruction then means back pressure sooner or later, dilated ureters, either from hydrostasis, or from direct infection of the ureteral mucosa, with ureteritis and regurgitation of fluid, a distension of the pelvis of the kidney and a hydronephrotic pressure on the parenchyma until often nothing is left but a shell of cortex. That is happily not the rule. Usually when the case presents itself, the function is low, but not in any way incompatible with life. *When the function is low, the great danger is in relieving the bladder pressure too suddenly.* A most careful pre-operative treatment is here necessary.

Whatever be the type of therapy employed, the end result to be sought for is a sign of willingness on the part of the renal parenchyma to react kindly to the change in pressure, brought about by the sudden institution of an inlying catheter regime. Usually the patient has been passing the catheter every six hours himself. This leaves quite a back pressure in the hours immediately preceding catheterization. After prostatectomy the pressure will presumably be removed. The only way then to ascertain what the kidneys will do on this sudden relief of long continued pressure is to institute continuous drainage, studying daily the change in urea concentrating capacity, as well as the tubular function. (Urea concentration may best be studied by the new Soy bean fermentation test of Marshall, and the

best colorimetric estimate of daily increase of tubular activity is undoubtedly to be had by the use of phenolsulphonphthalein). *It is not here a question of the actual values but of the relative daily rise in elimination.* If, under treatment, the function increases ever so slightly with inlying catheter there is little danger of complete suppression whatever other condition may supervene. A phthalein reading of 15 per cent. the first hour and 10 per cent. the second, increasing to 25 per cent. the first hour and 15 per cent. the second, has proved, by recent experience, to offer a suitable ground for operation, if urea concentration is good.

By whatever route, however, we decide to approach the gland, it should always be remembered that the act of prostatectomy is only one step in the procedure. Exhaustive diagnosis, careful choice of procedure with due regard to all contributing factors, infinite care in technic and a minute pre-operative and post-operative study of physical and chemical equilibrium; these are the steps which, aside from adventitious circumstance, spell success or failure, and which, if carefully considered in their bearing upon each case as an individual problem, will still further reduce the mortality in operations in this important area of the body.

CONCLUSIONS.

In conclusion the facts to be considered are:

1. In cases of retention either partial or complete—examine the prostate per rectum—this should be a part of every examination on the male.

2. If the prostate seems normal, cystoscope the patient and carefully differentiate the condition at the bladder neck, for upon this diagnosis and the above rests the choice of proper operative procedure.

3. No operation for removal of the prostate or for relief of obstruction at the neck of the bladder is complete until the floor of the urethra at the internal sphincter region has been thoroughly examined and any irregularity in its surface removed.

4. Consider always the power of the kidneys to react under relief of pressure, remembering that a low phthalein means bilateral involvement.

With these methods well in hand, and a normally careful post operative handling, we can reduce the statistics collected by Sherek of 25 per cent. mortality in these operations to 4.77 per cent. as given by Squier for suprapubic prostatectomy, and 3.5 per cent. as presented

by Young for the perineal route, a striking difference and well worth our profound consideration.

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PERIPHERAL NERVE DISEASES AND THEIR TREATMENT.

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The peripheral nerve diseases not being exhaustively studied and classified, I shall consider neuritis first and take Osler's definition as a basis, upon which I shall endeavor to frame a clearer picture of and prepare a better understanding for these and allied conditions.

Osler says:

"Multiple neuritis, peripheral neuritis and polyneuritis are the terms applied to a group of diseases which are due to affections of the peripheral nerves, or rather of the peripheral motor and sensory neurons. These conditions are distinguished from paralysis limited to a nerve, or a group of nerves in close anatomical relation, by the fact, that several nerves are affected simultaneously or in rapid succession (therefore multiple neuritis), that the condition is always bilateral and more or less symmetrical, and that the longer fibres of the nerves, which extend to the periphery of the limbs suffer more severely than the shorter fibres which are distributed to the proximal segments, or to the muscles and sensory structures of the trunk (therefore peripheral neuritis). The disease is characterized by the fact that it is limited to the peripheral neurons, while the central nervous system is intact, or any changes which may occur in it are merely a coincident effect and of no significance in the production of the clinical picture.

"The term neuritis would indicate that the condition to which it is applied, is an inflammatory process, but this is not so in multiple neuritis. As a rule, little or no evidence of inflammation can be found in the affected nerves, even in the severest types, and where there is inflammation, it probably only represents a reaction of the connective tissues to the degeneration of the nerve fibres, or the result of an attempt to remove the products of degeneration of the parenchyma of the nerves, due to the direct action of a poison or other noxious agent on them, is the primary and essential change."

Osler gives three different classifications, one according to the pathology, the other by the clinical symptoms, the third as to the etiology. The two last ones are not satisfactory and rather confusing.

Osler describes two pathological types:

1. In the primary and essential process is a degeneration of the parenchyma or functional portion of the peripheral nerves.

2. In the other it is an inflammatory or simple

hypertrophic process of the connective tissue in which the fibres are ensheathed.

We will have to consider these two types more closely, for it is upon the pathology of neuritis that the Cornelius treatment, of which I shall speak later, is built up.

The first type of cases represents those in which the parenchyma or functional portion of the peripheral nerves undergoes a process of degeneration. As Osler says, no poison will cause such a condition after one dose, but a repeated and strong enough action of it is required.

Then, there must be two distinct stages in the course of the disease. The first stage will be marked by the symptoms due to the influence of the poison before it reaches the point of causing degeneration of the axis cylinder, for there must necessarily be some changes preceding this process. The effects of small amounts of any irritating substance when brought in contact with tissues are: Hyperemia, swelling, softness of tissue. This is exactly the picture found in acute cases of neuritis, according to Osler. The nerve appears red and swollen, there is hyperemia of the sheaths. The swelling is due to effusion of serum into the sheaths, the nerve feels soft to the touch. Such a pathological picture may be brought about by any poison, toxins, bacterial invasion or by mechanical irritation as severe strain and overwork, or by exposure to wet or cold. The main symptom of this preliminary stage will be: Severe pain, no matter what the cause or the nerves involved, be it torticollis, where the effusions are in the occipital and cervical nerves, or lumbago with the same affection of the lumbar nerves, or sciatica or multiple neuritis of any kind.

Also the pathology of this stage will be similar for both types, the parenchymatous and interstitial, though there will be a difference in severity and duration, according to the cause.

While under bacterial invasion the first stage may be one of hours, the nerve being destroyed quickly, it will take weeks or months in metabolic or alcoholic poisoning, before the axis-cylinder is affected, and if cold or strain are the cause the process will in the majority of cases be confined to the interstitial connective tissue and only occasionally will a very severe and long continued case lead to partial degeneration of the nerve fibres.

As soon as degeneration of the axis-cylinder sets in, there is a complete change of symptoms; the pain disappears, muscular function is lost

and so are the reflexes and atrophy of the muscles begins.

In the parenchymatous type of neuritis, the sensory symptoms are preliminary, of comparatively short duration, then disappear entirely and give way to motor symptoms, which constitute its most pronounced feature. It is a self-limited disease and regeneration starts from the neurilemmal sheath and its nuclei and the duration is from six to twelve months.

The second type, the interstitial neuritis, is not of a destructive but rather of a productive nature. Here, as in the first type, we find that the disease may have either an acute or chronic course, or we encounter quite frequently cases, in which there was an initial acute attack, which quieted down and became chronic—only to return to active condition under sufficient provocation.

It is not surprising that the medical literature shows few contributions to the pathology of interstitial neuritis, as the patients do not die of it and as its most pronounced symptom is that of pain, a symptom of less interest to the physician than the patient.

In 1905, Dr. T. Ramsey Hunt of New York published an article in the "*American Medicine*," entitled "Contribution to the Pathology of Sciatica," in which he reviews the post-mortem findings of eleven cases of sciatica reported in literature up to that time and describes one case of his own. Among these eleven cases are only two microscopic examinations, which are reported as negative. In eight cases the nerve was found to be enlarged, reddened and edematous, in the case of Gendrian in the year of 1826 a sanguinolent edema within the nerve sheath is described, the fluid of which could be expressed at the cut end.

In his own case Dr. Hunt finds the nerve enlarged in parts, due to an exudate of gelatinous character in the perineural areolar tissue and fat. The microscopical examination is negative, only the perineural connective tissue of the individual nerve bundles is found thickened and coarse.

The differences in the gross pathology of the nerve have probably their origin in the difference of duration of the disease at the time of the autopsy. In the earlier cases the swelling and redness are more pronounced, the exudate more fluid, while later on it thickens and the congestion lessens and still later the exudate is absorbed or organized and in time the whole nerve shows a shrunken appearance.

These findings in sciatica doubtless hold good

for all other nerves showing the same symptoms.

The clinical picture of the interstitial type is that of pain in all degrees leading finally to disability and contractures.

It is this class of patients, to whom we want to bring relief in a more efficient way than we have been able to do thus far. My experience in treating chronic neuritis during the last six years has taught me a number of things. First of all that it is not easy to make a correct diagnosis.

There are a number of conditions, which are not recognized as being due to neuritis and are given names which do not refer to their nature but tend to increase the difficulty of diagnosis.

Dr. Hunt speaks in his article about a neurotic or pure neuralgic form, in which pain is practically the sole symptom—but what is the cause of this symptom? For there must be a cause. Pain is also the sole symptom of interstitial neuritis—what, then, is the difference?

The nerve pain in any part of the body not due to neuritis I have found to be caused by pressure on the root or along the course of the nerve, due to bony excrescences, tumors, infiltration tissue, overstretched and relaxed ligaments, etc. We might term these cases neuralgic, because the pain is not due to any pathologic condition of the nerve itself, but hardly neurotic as we associate with the latter a certain kind of mental condition.

Hysteria, too—as in all other diseases—will help to complicate at times the diagnosis of neuritis.

The worst enemy of a correct diagnosis are the obsolete terms of chronic rheumatism and myalgia.

Allow me to quote Osler again. He refers to chronic rheumatism in the following terms:

"It seems well to state that in view of the writer there is no advantage and every disadvantage in the use of the term."

And again:

"The use of the word 'rheumatism' to describe any form of ill-understood pain—muscular, arthritic, synovial, or neural—is a diagnostic sin, for which no good word can be said."

About myalgia Osler says:

"Under this term, or the unsuitable one of muscular rheumatism, are grouped a variety of conditions but little understood, and which have perhaps in common only the symptom of pain. These are comparatively frequent in occurrence, vary greatly in severity and acuteness, and for the present have to be regarded as difficult of explanation. The acute forms we see especially as torticollis or lumbago. The more chronic forms are associated with more

or less pain and at times with varying degrees of disability and stiffness. The essential nature of the condition is in doubt."

It is not in doubt for any one who knows how to locate pain and finds the painful points in lumbago along the course of the lumbar nerves and in torticollis along the cervical nerves. About the pathology of myalgia Osler says:

"There is a serous exudation in the affected parts, which later may be followed by proliferation of the fibrous tissue. This may be absorbed entirely, but if long continued will be more or less permanent and may extend over a considerable area."

I beg you to notice, that the pathology given by Osler is exactly the same as that of interstitial neuritis, in fact, it is a neuritis of the lumbar, resp. cervical nerves. If we understand clearly the pathology of these cases, we will also see, that only a treatment, which promotes and encourages absorption, can cure these cases, and that if absorption does not take place or is incomplete, the formation of connective tissue will necessarily follow and the condition will become chronic.

There is still another condition, I want to mention, which has frequently been discussed of late by English authors, which they call "fibrositis" and describe as fibrous nodules in the muscles. These nodules vary from the size of a pinhead to a hazelnut and are most frequent in stout people. They are harmless and cause no symptoms, unless they enclose a nerve or press on it, and then the symptoms are identical with those of interstitial neuritis and yield to the same treatment. Certain nerves will sometimes resemble a string of beads, so beset are they with nodules.

In all these conditions the main symptom is pain and pain is a subjective symptom of very doubtful value to the physician. If we could find a way of proving to our own satisfaction that there is pain, and where it is, we will have found a means of throwing light on a number of conditions, which so far necessarily proved to be confusing.

Dr. Cornelius, one of the professors at the Berlin University, originated some twenty years ago a method which is equally efficient for purposes of diagnosis as well as treatment. He uses deep pressure over the nerves, which will elicit tenderness in case of inflammation. If the pain is due to pressure of a tumor upon the nerve, without implication of the nerve trunk itself, there will be no tenderness, neither do we find pressure pain in cases of central origin, or in hysteria.

On the other hand, if we find tenderness along the course of a nerve, we know there is an interstitial neuritis, even though the patient comes with a diagnosis, self-made or otherwise, of rheumatism, myalgia, or what-not.

The treatment of these different forms of peripheral nerve affections has consisted so far of internal and external medication, injections of alcohol or analgesics into the nerve or in surgical procedures. It is not my object here to discuss the advantages or disadvantages of either of these procedures; I think we all are familiar with the reports of those men, who have had an extensive experience in their line of work. I rather shall give you briefly an outline of Dr. Cornelius' method in handling these cases.

Let me recapitulate, that the pathology in the early stages consists of a sero-sanguinous, resp. gelatinous exudate within the nerve sheath, and in the later stages of an increase of the interstitial connective tissue through organization of the early exudate.

The logical treatment would therefore be the one which promotes absorption in the acute cases, and loosens the adhesions in the chronic cases. This is exactly what Dr. Cornelius does by manipulating the nerves, in both instances by deep pressure.

To describe the treatment so that anybody could apply it, seems to be difficult. It has to be studied in the clinic on a large and varied number of patients, under different conditions. The nerves are not uniformly involved, but only at certain points—called nerve-points—which frequently are smaller than a pin-point and easily missed or overlooked. Also the amount of pressure made, has to be carefully graduated according to the individual case, as patients react very differently to the treatment. Severe pressure in an unsuitable case will cause the most alarming after-effects and your patients will never come back for treatment. On the other hand too light pressure in a case with deeply located nerve points will give you and the patient the impression that there is no neuritis, while the trouble was deeply situated and not reached by the pressure.

The amount of treatments necessary for a cure stands in direct proportion to the length of time the trouble has existed. An acute neuritis of a few days' standing is generally cured by one or two treatments, one of ten or twelve weeks duration with ten or twelve treatments, and a chronic case of several years' standing may require fifty or a hundred or more treat-

ments before it is cured, dependent upon the number of nerves involved and the density of the interstitial connective tissue proliferation.

CONCLUSIONS.

To summarize, I should like to propose a simple classification, which would bring many so far ill-understood conditions into their proper relation and give them the place they deserve according to the pathological findings.

DISEASES OF THE PERIPHERAL NERVES.

I. Neuritis.

(a) Parenchymatous—in which the motor symptoms are most pronounced, preceded by a short period of sensory phenomena.

1. Neuritis due to poisons introduced into the body from without;

Inorganic substances like lead, arsenic, etc.
Organic substances as alcohol, sulphonal, etc.

2. Neuritis secondary to diseases producing toxins within the body as in diphtheritis.

3. Neuritis due to the invasion of the peripheral nerves by bacteria as in leprosy or by pyogenic bacteria.

(b) Interstitial—in which the sensory symptoms are most pronounced, including sciatica, lumbago, torticollis and cases of so-called chronic rheumatism.

Causes: Trauma, strain, overwork, exposure to cold and dampness, autointoxication, or it may be secondary to diseases as: anemia, tuberculosis, syphilis, malignant diseases, peripheral arteriosclerosis.

II. Neuralgia proper.

A nerve pain not produced by neuritis but by pressure from without upon the nerve (tumor, exudate, bone, etc.).

III. Neurosis.

Comprising functional disturbances without pathological basis.

TREATMENT OF ASTHMA AND HAY FEVER BY ACTIVE IMMUNIZATION.*

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In the specific treatment of asthma and hay fever, it is essential to have a clear understanding of the etiological agent and the nature of its action upon entering the body. It is now considered sufficiently proved that the pollen of certain plants is the causal factor, a cell unit, differing from all cellular micro-organisms that cause infectious diseases, by entirely lacking the faculty of multiplying within the host.

"June Cold," or the spring variety of hay fever is due to the type graminaceae, or the common field grasses, while patients who suffer

*Read before the Genesee County Medical Society, March 23, 1915.

from autumnal fever, are susceptible to the pollen of dicotyledones, such as: ragweed, oxeye daisy, goldenrod, and Indian corn. Autumnal fever is the most common in the United States, and occurs from August to October or November. During this season of the year, pollen reaches the nasal mucous membranes of all persons, only a small proportion, however, are affected, and this individual susceptibility is evidently due to a parenteral proteolysis as first suggested by Weichhart, and by Wolff-Eisner. The poisonous principle has been found to lie in the albuminous part of the pollen protein, and is specific only within the limits of a group reaction, i. e. it is not a true toxin, but acts as a sensitizer, and as a poison to individuals subject to the disease.

The disposition to hay fever may be inherited, or it may be acquired during any period of life. It is altogether probable that most cases are acquired, as the disease rarely appears before the fifth year, and undoubtedly is greatly dependent upon the permeability of the nasal mucous membrane.

The treatment to be described, consists of increasing the tolerance for pollen protein by active immunization, through the hypodermic injection of a pollen extract. The first published account of scientifically conducted experiments on this treatment appeared in 1911, by Noon and Freeman, of Wrights laboratory in London, while about the same time, Koessler conducted similar independent experiments in this country. The technic of the latter has been followed by the writer with the exception of a few minor details.

Most patients in this locality react to ragweed and goldenrod, and for those who showed such reaction, a pollen extract was prepared from these plants. One cgm. of pollen was ground up as finely as possible in a mortar, a small amount of sterile sea sand being added to better accomplish the grinding. To this was added 10 cc. of a sterile normal salt solution, and the suspension well shaken and kept at 37° C. for eighteen hours. After a second shaking, the extract was centrifuged and the supernatant fluid drawn off, and kept as a stock solution. This concentrated pollen solution, which was a 1-1,000 dilution was found to be more stable, when kept on ice, than were those of higher dilution. Phenol 0.25 per cent. was added as a preservative.

A unit of pollen toxin has been adopted in order to properly grade the dosage. The 1-100th part of a millionth of a gram of pollen

protein has been arbitrarily designated as the unit, or one U $P=0.000,000,01$ gm. As an example, one cc. of a 1-100,000 dilution would contain 1,000 units.

In all cases the initial dose should be small and gradually increased, but must be kept somewhat below the patient's tolerance. The cases to be cited later were started on 50 units and the dose increased at each subsequent injection; none of the patients could be given more than 750 units without responding with a severe reaction. These overdoses are to be avoided as they lower the resistance rather than immunize. The most favorable results were obtained by giving frequent injections, as on every second day.

Eleven cases were seen during the fall of 1914, none of whom presented themselves for treatment until the attacks were well established. All had suffered attacks for many years and might well be classed as severe cases, and were found to have an involvement of both the nasal and tracheobronchial mucous membranes, except one, who showed simply a severe rhinitis. Of the cases treated with pollen extract, one received no benefit whatever, and was subsequently placed upon injections of adrenalin chloride solution. Two were made subjectively better. Another made marked improvement for three weeks, and then took an automobile trip of several days, a test that very few of this type of disease could withstand. Following this trip the patient suffered severely, and his resistance to pollen could not be increased to any appreciable amount. The remaining seven cases improved both subjectively and objectively; in three, the symptoms disappeared entirely for the rest of the season, while in the others the attacks were less frequent and of a mild degree of severity.

Inasmuch as rather remarkable results seem to attend the use of pollen toxin during the active stages of hay fever, it would only seem reasonable to believe that much good should arise from its use before the pollen appears, as has been suggested by other writers. In this way the patient would be well fortified against an attack. Pollen from plants that grow in the same vicinity in which the patient lives should be used when possible in the preparation of the toxin, as they are the varieties to which he is sensitized, rather than those of another place. This fact may often be noted by the frequent improvement in symptoms on the change of place of residence, and a new variety of pollen is encountered.

CONCLUSIONS.

1. In concluding, it might be well to reiterate briefly what has already been brought out; that the results of a number of workers seem to quite conclusively show that hay fever is a type of anaphylaxis due to the pollen of certain plants; the susceptibility being largely dependent upon the permeability of the nasal mucous membrane.

2. The sensitization is most marked toward the pollen in the vicinity in which the patient lives, making it imperative that the pollen toxin be prepared from plants in the same locality, in order that treatment may be offered with a toxin toward which he is most susceptible.

3. As the purpose of treatment is to increase the resistance toward the toxin of pollen, it would seem very desirable to give treatment prophylactically, rather than during the active stage, when possible. Personal experience, however, has shown very encouraging results in severe cases well advanced into the season.

Pollen toxin is not a stable product, and must be sterile always, and of a uniform potency. Even though kept on ice, a fresh solution should be made every eight to ten days to avoid the possibility of unpleasant symptoms.

The Dryden.

INFECTIONS OF THE HANDS.*

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Infections of the hands are subject to all of the conditions involved in infections elsewhere in the body and in addition to those peculiar to the anatomy of the part. The infecting agent is usually one of the varieties of the staphylococcus, which is a natural habitat of the skin.

Wounds of the hand are usually either lacerated or simple punctured wounds from splinters of wood or iron. The simple punctured wound received from splinters of wood sometimes result in most disastrous consequences, because they are never seen by a surgeon at the time the wound is received and when they come into his hands the infection has ordinarily traveled a considerable distance along the lymphatics.

The symptoms produced in the course of the infection depend upon the virulence of the infecting agent and upon the general condition of the patient, so far as his resisting power to infective process is concerned. This in a gen-

eral way may be determined to some extent by the blood count. In the presence of an active infection the white cells should number from twenty-five to thirty thousand, but in the cases that are doing badly the white cell count will be found small and in such conditions benefit may be expected from the administration of vaccines. The ordinary treatment of infective processes elsewhere in the body is applicable to infections of the hands, but in order to carry them out properly a thorough knowledge must be had of the anatomy of the hand and especially of the location of the spaces in the hand and the best means of reaching those spaces.

Infections spread by means of the lymphatics and by means of the tendon sheaths, and in some forms of infection a predilection seems to be had for the tendon sheath route. In my experience these forms of infection have been the most difficult to deal with.

The location of the various spaces in the hands has been worked out by Kanavel of Chicago and has been described by him.¹ As a result of his investigations he states the following general facts.

"1. There are certain well-defined, uniform spaces upon the fingers, palm, and dorsum of the hand in which pus can accumulate.

"2. There are definite anatomical channels by which infection arising in a given spot will extend to certain of these spaces, while certain other spaces will remain uninvolved; hence the diagnosis of the position of the pus is simplified and the proper site for the incision determined.

"3. There are definite anatomical channels by which pus can spread from the uniform spaces mentioned, and when this occurs, the position of the pus can be prognosticated.

"4. The boundaries of the fascial spaces having been determined, it is readily seen that in some of these the incisions for evacuation must be made at definite spots; otherwise important structures may be injured, or by ill-advised incisions adjacent spaces may be opened at the same time and a spread of the infection favored to parts of the hand that would not have become involved without this unfortunate surgical procedure.

"5. It can be readily understood why, in certain cases, the infection has persisted for weeks and months after apparently opening the pus pocket, since diverticula and intermediary chambers have not been taken into consideration."

Quoting further from this article we note that he demonstrates five great spaces as follows:

"First, the dorsal subcutaneous, which is an extensive area of loose tissue, without definite boundaries, allowing pus to spread over the entire dorsum of the hand.

*Read before Ionia County Medical Society, May 12, 1915.

1. *Surgery, Gynecology and Obstetrics*, volume No. I, p. 221.

"Second, the dorsal subaponeurotic, limited upon its subcutaneous side by the dense tendinous aponeurosis of the extensor tendons, upon the deep side by the metacarpal bones, having the shape of a truncated cone, with the smaller end at the wrist and the broader at the knuckle. Laterally the aponeurotic sheet shades off into the subcutaneous tissue.

"Third, the hypothenar area, a distinctly localized space.

"Fourth, the thenar space, occupying, approximately, the area of thenar eminence, to the flexion adduction crease of the thumb, not going to the ulnar side of the middle metacarpal. It should be remembered that this space lies deep in the palm, just above the adductor transversus.

"Fifth, the middle palmar space, with its three diverticula below along the lumbrical muscles, limited by the middle metacarpal bone upon the radial side, overlapped by the ulnar bursa upon the ulnar side, and separated from the thenar space by a partition which is very firm everywhere except at the proximal end, where it is rather thin. A small isthmus can be found leading from the proximal end of the space under the tendons and ulnar bursa at the wrist up into the forearm."

Recognizing the presence of these great spaces we have to consider the means by which infection reaches each of them and also the effect of the infections traveling along the tendon sheaths. "From the index finger it may spread along the subcutaneous tissue to the back of the hand then come to lie in the cellular spaces and the web between the index and middle fingers, and could spread along the lumbrical muscle of the middle finger into the palm and thus reach the middle palmar space. Upon the radial side of the index finger the pus would probably come to the surface. If the pus were under the dorsal aponeurosis of the proximal phalanges, it would be limited to this area since it is a closed space and does not communicate with the subaponeurotic area upon the dorsum of the hand. However, a metacarpophalangeal arthritis may develop with destruction of the bone and ligaments. Extension then becomes possible into the thenar space.

From infection of the thumb the pus may enter the thenar space, but that result is not very probable as there is no direct connection and the tendency of the sheaths is to carry the pus in other directions. If the infection is of the connective tissue spaces, it could spread along the ulnar side of the thumb and by considerable destruction of connective tissue finally invade the space. Should the infection be upon the back of the thumb the pus would extend more easily into the dorsal subcutaneous tissue of the thenar area.

THE SPREAD OF INFECTION INVOLVING THE MIDDLE FINGER.

Extension from the synovial sheath at its proximal end in every case will extend into the middle palmar space after rupturing through the connective tissue, separating it from the space. Should the infection be a deep-seated accumulation of pus in the cellular tissue upon the dorsum, it could spread subcutaneously upon the back of the hand, upon the radial side. Osteomyelitis, involving the metacarpal bone, would tend to invade the middle palmar space in front, and the subaponeurotic dorsally.

THE SPREAD OF INFECTION INVOLVING THE RING FINGER.

Here infection leads through into the palmar space if any delay occurs in evacuating the pus when it first forms in the finger.

From the little finger the infection may spread along the lymphatic channels and connective tissue spaces from the inner side of the finger into the middle palmar space. On the outer and dorsal side they would tend to lead into the subcutaneous tissue externally.

The various spaces then may be infected from the following sources:

The middle palmar space would receive infection from the middle finger, ring finger, and radial side of the little finger, with its synovial sheath.

The thenar space would become involved from the index finger and the ulnar side of the thumb.

The Hypothenar space would become involved in an osteomyelitis of the fifth metacarpal.

The subaponeurotic space would become involved by an osteomyelitis of the middle and ring finger metacarpals particularly and at times from the little and index metacarpals. Lymphatic abscesses along the deep dorsal vessels would also lie under this sheet of tissue. The dorsal subcutaneous space communicates freely with the fingers and the thumb."

Should the diagnosis of a localized accumulation of pus in any of the various tissues be made, we naturally ask what is the best site for incision, for we need not discuss the proposition that such a condition as that demands early and efficient drainage. Should the subcutaneous tissue of the dorsum or the areas under the epidermis or derma of the palm be involved, or those minor infections of the thenar and hypothenar areas be present, a wide opening by simple incision is generally sufficient. Should the middle palmar, thenar or suba-

poneurotic spaces be involved, however, some special consideration is necessary. The opening of the middle palmar space is a grave responsibility: the diagnosis is difficult, and upon the other hand the danger of delay is great. Any method of opening the space exposes certain tissues to injury and it is a question of choosing the least dangerous route.

The best method is that of through and through drainage from palm to dorsum. The incision should be made into the metacarpal space between the middle and ring finger, at a point where the middle palmar crease crosses the metacarpal space. Making a cut here through the palmar aponeurosis and then forcing a pointed artery forceps through to the dorsum, being careful to rupture the dorsal aponeurosis freely, we draw through a large, perforated rubber tube.

In the thenar area the drainage should also be through and through from palm to dorsum. The palmar opening should lie to the ulnar side of the muscular body, emerging on the dorsum at about the level of the metacarpo-phalangeal articulation of the thumb, midway between the two metacarpals. A rubber drainage tube should be used.

If the subaponeurotic space be involved we should remember that the tendons proper in the lower part of the dorsum overlie the metacarpal bones, except the tendon going to the little finger; consequently our incision should lie over the interosseous space.

If the infection has spread up under the annular ligament into the forearm, the pus will lie beneath the tendons and the best method of emptying this abscess would be to go laterally, just anterior to the radius, about three inches from the wrist. After making the skin incision, an artery forceps is pushed through the deep tissue, going between the flexor profundus tendons and the bone. Should the cavity be opened a wide incision can be made, and the pus evacuated through one opening, or through and through drainage can be instituted, the tube passing just above the ulna.

After all these incisions the application of warm antiseptic solutions is indicated. I am in the habit of using Ochsner's solution, the formula of which is as follows:

Alcohol	2	Oz.
Carbolic acid	1	Oz.
Glycerine	1½	Oz.
Saturated solution boracic acid Ad....	2	pints

In the treatment of wounds of the hands, no matter how insignificant, it is important that

strict antiseptic precautions shall be adopted at once. In one splinter case resulting in death in my hands last year, a representative of the Industrial Insurance Company, in which the employers were insured, informed me that their company paid out more money on account of sliver wounds of the hand than from all other causes combined. This company is engaged exclusively in the insurance of men employed in wood-working industries.

Punctured wounds should generally be enlarged and I believe should be thoroughly swabbed out with a 5 per cent. solution of iodine. If all could be seen when the wound is first inflicted, by a competent surgeon, and the wound dressed according to antiseptic principles, it is probable that no serious consequences would ever arise in these cases, but these slight wounds are ordinarily attended to by the patient himself, or by his friends in the factory, and the result is that two or three days afterwards when they come into the hands of the surgeon, the infective process is already firmly established. More severe wounds are, of course, sent to the surgeon at once and we seldom have serious trouble from infections in this class of injury.

I have been so unfortunate as to have had two severe cases of infection of the hand during the past twelve months. Both of them were simple punctured wounds from a splinter of wood. Both were seen by me two days after the injury, the splinter having been removed in each case by the patient at the time of the injury. Two days later patient suffering considerable pain he concluded to consult a surgeon.

The first case, which resulted in death from pyemia, I opened under antiseptic precautions very freely, two days after the injury when I first saw him. I discovered no pus. The extension of the infection in this case was by means of the lymphatics and tendon sheaths, and I neglected to make the opening sufficiently deep to reach the tendon sheaths. Warm moist antiseptic applications were made and for two days the patient did very well. His pain then returned and on that account I administered an anesthetic and made a very thorough opening at the point the infection entered, and upon the dorsum of the hand where the pain was most pronounced. Although thorough exploration was made in this case no pus was discovered at that time and suppuration did not begin for several days subsequent to the exploration. It then, however,

suppurated very freely and extension occurred along the tendon sheaths with considerable rapidity. Dr. Hutchinson of Grand Rapids, was consulted in the case at this period, and gave the opinion that the openings had been made as thoroughly as it was possible to do. Nevertheless the progress of the patient continued from bad to worse. General pyemia developed with secondary abscesses in all parts of the body and he died in about three weeks from the time of receiving the injury. Culture demonstrated that the infecting agent was the staphylococcus aureus.

The second case, which occurred last fall, was the same kind of an injury and came to me two days following the injury complaining of the same symptoms as the previous patient; intense pain at the base of the thumb, where the splinter had entered, but without the presence of pus. Largely on account of the intense pain the patient was complaining of, which could not be accounted for by the physical appearance of the parts, I placed him in the hospital and made very free incisions and established through and through drainage through the thenar space. Improvement, however, did not occur at once. The infection spread along the tendons into the dorsum of the hand, subaponeurotic space and upon the tendons to the arm above the wrist. All these various spaces were opened freely, sometimes operations being done every day for a period of four days. The patient's hand and arm were kept in continuous bath of warm antiseptic solution. For hours at a time it was kept in a tub immersed in such solution. Nevertheless for a period of two weeks the infection spread as persistently as in the fatal case previously described. Culture showed that the infecting organism was the staphylococcus aureus. Blood count showed but ten thousand whites. A vaccine was made and administered and the blood count gradually increased until after the third dose of vaccine was administered the white cells increased to twenty thousand. From that time an improvement was observed in the condition of the patient and he finally made a very good recovery, though with somewhat impaired functions of the hand.

The history of this case confirms the opinion I have formed, that lack of resisting power in the patient is largely responsible for these persistent and progressive infections, especially when the case is subjected to early and vigorous treatment.

To sum up then, we should treat all infec-

tions of the hand as promptly as possible and with vigorous antiseptic measures. No punctured wound, especially if it has extended deep into the hand, should be permitted to leave the office without converting it into an incised wound and treating with radical antiseptic measures. Our factory people should be educated to the point of sending their splinter cases to the surgeon at once. The practice of the operatives taking out their own splinters, probably with a dirty knife, is very bad and so long as it is persisted in will lead to many damaged hands and to occasional deaths.

CLINICAL EXAMINATION OF THE FECES.

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Probably the most neglected of all our modern methods of investigation is the examination of the feces, therefore no apology is offered for the presentation of this subject. The enormous value of such an examination and the knowledge which it gives us of gastro-intestinal functioning, together with its neglected use makes it a subject which cannot be brought too frequently before the eyes of the practitioner of medicine.

Gastro-intestinal pathology more than any other department of medicine shows the influence of nonhygienic living, worry and the strenuousness of modern life. It is therefore of greatest importance to determine the difference between functional and pathological diseases of the digestive tract since the knowledge determines the therapy.

Many efforts have been made to elaborate a method of clinical examination of the feces whereby reliable information could be obtained regarding disturbances of the intestinal digestion. To Schmidt must be given the credit of devising such a method. By the use of his diet, which will be described later, fairly reliable information can be obtained concerning the power of the intestines to digest certain articles of diet.

In normal individuals one to two bowel movements daily is the rule; exceptions may be made to those where absorption and assimilation is so complete that very little residue is left and a movement occurs every other day, and vegetarians who may move oftener than twice a day.

The normal stool has a cylindrical form and

a pulpy consistency. A stool deposited in the form of one massy cylinder, dry in consistency, indicates atonic constipation. If they have the consistency and form of sheep feces (scybalæ) it indicates obstinate constipation, either anatomical or functional. Ribbon-like stools point to spastic constipation or stenosis.

The odor is normally due to scatol. A more offensive odor is due to excessive decomposition of proteids. It is still more offensive in enteritis. A stool with a sour odor points to a disturbed carbohydrate digestion.

The color of a normal stool depends upon the food eaten. Usually it is dark brown, but on a vegetable diet it is of a lighter shade. Iron and bismuth give a black stool; santonin, rhubarb and senna give light yellow stools, cocoa, brown. Calomel produces green stools due to the increased peristalsis which allows no chance for the bilirubin to be converted into hydro-bilirubin. For the same reason green stools may be found in diarrhea, or they may also be due to the chlorophyll of certain vegetables.

Alcoholic stools are due to the presence of an excess of fat, either because of the ingestion of large amounts, or on account of a disturbance in the function of the liver or pancreas, which would prevent the normal splitting of the fat and proper absorption.

Blood in the feces may change the color according to its origin and the amount present. Swallowed blood, or blood from a gastric or duodenal hemorrhage, if in large amounts, produces a black tarry stool, while in smaller amounts produces a brownish color according to the amount present. Small amounts may be present in a light colored stool and are best detected chemically. Blood from the large bowel is bright red and more or less mixed with the stool according to the distance of the bleeding point from the anus. With hemorrhoids, rectal ulcer, or carcinoma the stool may be merely streaked with blood on the surface.

Mucus is present normally in small amounts. In larger amounts it indicates an inflammatory condition of the mucous membrane of the intestine with the exception of the small shreds often seen on the surface of the scybalæ, and in colica mucosa where large shreds are thrown off at intervals. This condition is thought to be a functional hypersecretion. Large pieces of mucus originate in the large intestine. Minute specks of mucus mixed in a liquid stool indicates the inflammation is in the small intestine. To confirm this, broken up cells, nuclei,

or food particles should be found imbedded in the mucus on microscopic examination. Mucus if bile stained indicates disease of the small intestine, and if colorless catarrh of the large intestine or lower part of the small intestine is present.

Pus may be present in tuberculosis of the colon, and in malignant growths it generally occurs in connection with blood.

Parasites should be looked for, such as segments of a tape worm, *ascaris lumbricoides*, *amebæ coli*, *cercomonas intestinalis*, *trichomonas intestinalis*, etc.

FUNCTIONAL EXAMINATION OF DIGESTION BY MEANS OF AN INTESTINAL TEST DIET.

The Schmidt diet may be given in the hospital or home if a nurse is in attendance on the case, but for the average run of gastro-intestinal cases as seen in the office or clinic it is rather impractical. With this in mind I have been using for some time a diet which conforms to his, both in the number of calories and in the proportion of the different food present. It is easy to obtain and may be taken by the patient at work or business as well as in the hospital or home. The intestinal test diet that I have urged is as follows:

- 2 soft boiled eggs.
- 2 glasses of milk.
- 1 oz. toast.
- ½ oz. butter (2 large squares).
- 2 oz. oatmeal.
- ½ oz. sugar.

Noon:

- 4 oz. chopped beef (rare).
- 6 oz. mashed potatoes.
- ½ oz. toast.
- 2 glasses of milk.
- ½ oz. butter.

Night:

- 2 glasses of milk.
- ½ oz. toast.
- ½ oz. butter.

The patient should be kept on this diet for at least three days, then a specimen taken and examined as soon as possible after its passage, both macro- and micro-scopically.

MACRO-SCOPIC EXAMINATION.

This is important and for the general practitioner is often the only method at his disposal. The form, consistency, odor, color, etc. should be noted as above described, as well as the presence of fermentation, mucus, pus, and macroscopic food particles.

MICROSCOPIC EXAMINATION.

Three smears are made and examined.

1. The feces alone, where we can see bacteria, yeast cells, crystals, muscle fiber, con-

nective tissue, mucus and the eggs of parasites. Muscle fibers are easily recognized by their yellow color and regular surface. Connective tissue fibers are recognized by their shining surface and tortuosity.

If an excess of muscle fiber, especially with striations present, is found we assume that the digestion of proteids is poor. If the muscle fiber is found unaccompanied by connective tissue the trouble is with the pancreas, but if both are present in excess it indicates that the HCL of the stomach is also diminished or absent as it is the HCL which dissolves the connective tissue and exposes the muscle fiber to the action of the pancreatic juice. If considerable connective tissue is found alone it suggests that there is a diminution or absence of hydrochloric acid in the stomach.

2. Feces plus a drop of Sudan III sol. plus a small amount of heat. The Sudan III sol. consists of glacial acetic acid 90cc, alcohol 90 per cent., 10cc, and a knife point of Sudan III, as recommended by Saathoof.¹

The fat droplets are easily recognized by their red color. If large amounts of fat are found it indicates a deficient pancreatic secretion, common bile duct obstruction, or intestinal catarrh. A small amount of fat is normally present.

3. Feces plus Lugol sol.: The starch residue stains blue while the yeast cells stain yellow. An excess of starch in the stool points to a mild disturbance of the small intestine, but when found together with muscle fiber and fat it indicates pancreatic disturbance.

CHEMICAL EXAMINATION.

Normally the reaction of a stool, with litmus paper, is weakly acid or alkaline. An increased acid reaction indicates carbohydrate fermentation while an increased alkaline reaction indicates proteid putrefaction.

SCHMIDT'S SUBLIMATE TEST.

A small portion of feces is mixed with a few drops of saturated solution of mercuric bichlorid in a watch crystal, covered, and set aside at room temperature. In 6-24 hours the production of a red color is normal, indicating the presence of hydrobilirubin. A green color, even of microscopic portions, shows the presence of bilirubin and is abnormal, indicating the presence of intestinal catarrh. Absence of any color indicates the absence of the entrance of the bile into the intestine as found in common bile duct obstruction.

FERMENTATION TEST.

A portion of feces is made liquid with water and placed in a Strassburger fermentation tube, put into the incubator and left there twenty-four hours. Normally there is only a slight development of gas, pathologically gas is excessive with a sour odor in cases of carbohydrate fermentation, or an intensely offensive odor in cases of proteid putrefaction.

TESTS FOR OCCULT BLOOD.

Before examining a stool for occult blood it is necessary to place the patient on a diet free from blood i. e. a meat free diet, meaning total abstinence from meat, meat soups, meat extracts, etc. for three days. Neither should any gastric or esophageal instrumentation, such as the passage of a stomach tube or bougie, be done for three days, to avoid even a slight bleeding from these causes. Other sources of blood such as swallowed blood from the teeth, nose, throat or lungs, bleeding hemorrhoids, etc. should be ruled out before concluding that the finding of occult blood means gastric or intestinal hemorrhage. Prunes may also give a positive benzedine test and should be excluded.

The most satisfactory ways of detecting occult blood are the following:

The Guaiac Test.—A piece of stool about the size of a marble is rubbed with about 5cc. of glacial acetic acid, after which about 5cc. of ether is added. The test tube is turned slowly up and down to mix the contents and then allowed to stand until the ether comes to the top when it is decanted into another dry tube. One cc. of a freshly made guaiac tincture is now slowly poured down the side of the tube so as to form two layers, and a few drops of H^2O^2 are added. If occult blood is present a blue color will form at the zone of contact. The tube is now shaken and if the test is not too weak the whole contents will assume a blue color, the depth depending upon the strength of the reaction. The blue color disappears upon standing.

Boas has recently modified the test by which he considers it is made more sensitive and reliable. The feces are rubbed up with an acetic-acid-alcohol sol. (acidi acetic glacial, 25; alcohol absol., 75), then filtered; then ten to fifteen drops of a fresh resin guaiac alcohol solution are added without shaking, and fifteen to twenty drops of H^2O^2 . If occult blood is present a dark blue or strongly violet color is obtained.

1. Munch med. Woch., Oct., 1912.

Benzidine Test.—This test is the most sensitive of all and should always be used in conjunction with the guaiac test. A knife point of benzidine crystals is dissolved in a few cc. of glacial acetic acid. One cc. of this is added to the ethereal extract of stool, as in the guaiac test. On the addition of a few drops of H^2O^2 the presence of blood will be shown by a green or bluish color in one to three minutes.

The finding of occult blood in the stool is the most important sign in the diagnosis of gastric or duodenal ulcer. A constantly negative blood test speaks against the presence of a florid ulcer, but not against healed ulcer or its sequelae. It is also the most important early sign in the recognition of gastric carcinoma.

TESTS FOR PANCREATIC FERMENTS.

The estimation of the ferment activity in the feces is of value in determining the presence or absence of pancreatic diseases. A breakfast of mixed foods is given followed by an enema, and the administration of 3 grains of calomel plus 5 grains of phenolphthalein. The liquid stool which is obtained in a few hours is filtered and the filtrate used in estimating the ferment activity.

Trypsin.—The stool filtrate if not alkaline is made so by the addition of sod.-carbonate and the tryptic activity estimated by the Mett albumin tube method as used for the estimation of pepsin in the gastric juice. The Fuld-Gross casein method may be used.

Amolypsin.—A 1 per cent. sol of Kahlbaums soluble starch is prepared on the water bath with considerable stirring for 8 to 10 minutes. Five cc. of this solution are placed in each of nine clean sterile test tubes and the stool filtrate added in amounts giving from 1-10 to a 1,10,000 dilution. The tubes are incubated at 38-40° C. for 24 hours, and then filled to near the top with water, mixed, and one drop of n-10 iodine sol. added to each tube. Incomplete digestion of the starch is indicated by a blue color, and the amount of amolypsin present estimated by the last dilution in which no blue color appears. In a normal case the last tube which shows complete digestion usually runs from 1-500 to 1-5,000.

Steapsin.—To 10cc. of distilled water in a small flask are added 1cc. stool filtrate, 1cc. ethyl buterate, and 1cc. toluol. One drop of a 1 per cent. alcohol phenolphthalein sol. is now added and the mixture made neutral with n-10 NaOH. Add water to bring the fluid to 25cc..

cork, shake and incubate for 24 hours at 40° C. A control is made by using stool filtrate which has been boiled for five minutes. After incubation it is titrated to neutral again with n-10 NaOH. The difference between the amount of free acid which has developed in the control and test flask is taken as an index of the fat splitting ferment present.

It has not been the aim of the writer to make any new contributions to the literature on the examination of the feces, but rather to urge the more frequent employment of recognized methods of study of an excretion which is too often overlooked and will often reveal the true condition of the long suffering patient, resulting in a clearer diagnosis and prognosis and a more rational treatment of the many more or less obscure disturbances of the digestive tract.

603 Kresge Bldg.

ABDOMINAL INJURIES.*

GEORGE H. PALMERLEE, M.D.

DETROIT, MICH.

In discussing the subject of abdominal injuries and referring particularly to those cases not having a wound of entrance, one will find that it is often very perplexing to the most experienced surgeon to determine the right method of treatment in these cases. At first there may be no objective symptoms present which indicate a serious injury. It is important to obtain a careful history of patients who have sustained an abdominal injury. Should there be a penetrating wound, then an exploratory operation is, without question, indicated. Under such circumstances, it is not difficult to decide, but where there is not even a bruise, a scratch of the skin, and often comparatively little tenderness over the site of injury, it requires mature judgment, and it will tax one's diagnostic ability to the utmost, to distinguish between the important, and the unimportant, symptoms. In such a case, the history should tell how the injury was received, whether by a kick from a horse, run over by a wagon, squeezed between the bumpers of cars, falling against a timber, or being struck by a board from a saw.

It is almost incredible that the intestines are often completely torn across without giving evidence of so serious an injury until hours afterwards. How this takes place is hard to explain but possibly it is due to impingement against the spine or pulling on a fixed point.

*Read before the Surgical Section of the Wayne County Medical Society, Feb. 22, 1915.

Symptoms of shock are produced by blows over the abdomen and no actual internal injury occurs. Paleness, nausea and vomiting may follow. The injury may be a tear in the mesentery, rupture of the liver, bladder or intestines. Sometimes the opening in the bowel may be very small and plugged by a protrusion of the mucous membrane and is very soon sealed over by the omentum.

The location of the intestinal lesion is most commonly found in the small bowel, occurring more frequently in the ileum than in the jejunum and occasionally rupture is found in the large bowel. Usually the lesion is single.

The rapidity of the abdominal symptoms depends upon the size of the opening, and upon whether or not, the intestinal tract is full or empty. The greater the amount of escaping intestinal contents, the more rapidly will the abdominal symptoms develop. Large tears in the mesentery, with rupture of large vessels, will produce immediate symptoms of hemorrhage and shock, and later the intestine supplied by the injured vessels will become gangrenous. Rupture of the liver will be indicated by hemorrhage, and there may be rigidity and dullness in the right flank. The usual symptoms following an abdominal injury are pain, rigidity of the abdominal muscles, tympanites, vomiting and facies. Often, not all of these symptoms are present, neither do they always appear at once. I will mention, briefly, a few cases which have come under my observation.

1. Laborer, was squeezed between car bumpers and was sent to the hospital.

Examination shortly after the injury, revealed all symptoms of shock. Abdomen is somewhat distended and rigid, rapid pulse, pale, anxious expression of the face and pain in the abdomen, but no indication of bruise of the skin at any point.

Operation.—Exploratory laparotomy was done at once. There was a small rupture of the liver and the abdominal cavity contained a great quantity of red blood. A search of the viscera revealed no other rupture but the mesentery was torn in numerous places and so profuse was the bleeding that the patient was moribund before the bleeding vessels could be tied and died on the table.

2. Polish laborer, was squeezed against a car frame. He was sent to the hospital.

Examination did not reveal any local evidence of injury. Abdomen was a little tender above the umbilicus but no rigidity or distention. Pulse and temperature normal. The patient did not feel like remaining in bed and wanted something to eat and drink. However, nothing was given by mouth. Morphine, gr. $\frac{1}{4}$, by hypodermic for pain. About ten hours after the injury, the pulse began to rise; vomiting followed; abdomen became distended and

rigid; a pale and anxious look to the face. When the patient was seen the next morning, he presented a typical picture of a serious abdominal injury.

Operation was done immediately. The abdomen contained some blood and a considerable quantity of fecal matter. A hurried but thorough search was made and the small intestine was found torn completely through and a short distance into the mesenteric border. No other injury to the viscera was found. An end to end anastomosis was done but the patient died from shock about four hours later.

3. A boy, 16 years old climbed over the draw bar of a train. A sudden jolt caused him to fall between the bumpers and he sustained an abdominal injury.

On arrival at the hospital, in less than three quarters of an hour after the injury, he showed unmistakable signs of shock from hemorrhage. He had a pale anxious expression of the face, rapid pulse and respiration, abdomen very rigid and distended.

Laparotomy was done at once. No external marks of violence were in evidence on the skin but the right rectus muscle was found torn completely through. Upon opening the peritoneum, considerable blood was found. Examination revealed that the mesentery was stripped from the upper portion of the ileum for a distance of one foot. No other injury was found. Resection of the bowel and an end to end anastomosis was done. A fistula developed and was closed at a third operation. Patient made a good recovery and is well.

4. A car builder received a severe crushing injury to the abdominal region.

Complained of a little pain and tenderness across the lower part of the abdomen. Pulse and temperature normal. Catheterization indicated no injury to the bladder or kidneys. Apparently he was not seriously hurt. The next morning his pulse had risen to 120, respiration were more rapid and shallow, abdomen rigid and distended.

Operation was immediately done through median incision. No local injury present in the skin or muscle. When the peritoneum was opened, a large quantity of bile escaped. No injury could be found in the intestines exposed in the field at this point. The condition of the patient was so alarming that a drain was placed in the lower end of the incision, abdomen sutured as rapidly as possible and he was returned to bed suffering from considerable shock. Morphine was given freely. Saline by rectum and other means to combat shock used and the patient recovered from the shock. The abdominal wound drained bile for four days then ceased and the drain was then removed. Up to this time, nothing by mouth was given. Four days later, when convalescence seemed to be progressing favorably, he got out of bed. In the afternoon of the same day, he was suddenly seized with nausea, vomited enormous quantities of blood and died.

5. Car inspector received a squeezing injury to the upper and right quadrant of the abdomen.

No rise in pulse, temperature or respiration. Some tenderness and a little pain and a slight redness of the skin at the site of injury. No blood in the urine.

In view of past experiences, laparotomy was done at once and the abdominal viscera carefully examined. No injury was found. Only a few old adhesions of the right lobe of the liver to the parietal peritoneum. He made a good recovery. He left the hospital none the worse for the exploratory laparotomy.

6. A laborer, received a severe crushing injury, about the pelvis. He was immediately sent to the hospital.

X-Ray showed fracture at the symphysis pubis with considerable displacement, also fracture through the ilium and ischium.

He was rigid about the abdomen, and complained of pain, a diagnosis was made of rupture of the bladder, which was confirmed by laparotomy. The patient died of pneumonia in ten days.

DIAGNOSIS-PROGNOSIS.

An early diagnosis is extremely important, as every hour of delay greatly diminishes the chances of recovery. A complete rupture of the intestines is incompatible with life without operative treatment. According to statistics, the mortality is 51 per cent. Siegel's analysis of 376 cases gives the following:

Cases operated upon within the first four hours had a mortality 15.2.

Cases operated upon within 5 to 8 hours had a mortality 44.6.

Cases operated upon within 9 to 12 hours had a mortality 63.6.

Cases operated upon later than 12 hours had a mortality 70.0.

PAIN.

A patient suffering from an abdominal injury usually will complain of pain or at least of some tenderness of the abdominal wall. Muscular rigidity is often absent at first. Continuous and increasing pain or pain relieved by a hypo of morphine and which requires a second dose, is very significant of serious abdominal injury.

PULSE.

Unless there has been a rupture of a large vessel or a tear in the liver, or any injury that will cause immediate and profuse hemorrhage, the pulse rate may be but little influenced at first, but as the flow of intestinal contents and hemorrhage into the abdominal cavity continue, the pulse rate will begin to rise. Therefore an increasing pulse rate, alone, is sufficient warning that a serious injury has occurred and a laparotomy should be advised.

Muscular rigidity and tympanites are other very important symptoms—the rigidity which appears and involves the entire abdominal musculature, the kind that is so uniformly resistant

to the examiner's hand. It is often noticed that a dose of morphine does not affect that tense, board-like rigidity in these cases. Therefore, muscular rigidity of this type, coming on after an injury, should arouse suspicion of a serious lesion. In fact, I do not think I have ever seen a patient suffering from any acute surgical condition of the abdomen, that did not have muscular rigidity and tympanites.

Vomiting is practically always present in rupture of the intestine. It usually comes on in a few hours, and if persistent, indicates that grave injury to the abdominal viscera has occurred, and this symptom alone should be indicative of an exploratory laparotomy.

RESPIRATION.

As the distention and muscular rigidity increase, the respiration becomes more shallow and rapid.

Temperature is not affected early except in hemorrhage, then it may be subnormal. With the onset of peritonitis, it will rise and a sudden fall may occur in collapse. Temperature is about the least important in diagnosis of abdominal injury.

FACIES.

Facies, is usually not at all pronounced until the patient is in desperate condition, except, when there has been a rapid hemorrhage and profuse discharge of intestinal contents into the abdominal cavity. However, this symptom appears sooner or later in all serious abdominal injuries, but to wait until it does appear, is a loss of much valuable time and will tip the balance against the chances of recovery in all instances.

The cases most difficult to diagnose are those in which the rupture of the intestine has occurred high up, and when the injury occurred a long time after taking food.

Late symptoms of intestinal rupture are due to the fact that there was only a contusion of the bowel which later sloughed.

While not recommending that indiscriminate opening of the abdomen be done in all abdominal injuries, one may, in doubtful cases, be justified in doing exploratory laparotomy rather than wait for pathenomic symptoms to appear, provided injury to the chest and kidneys are excluded. Perhaps a better procedure when abdominal injury has been sustained, would be to have some reliable person count the pulse every hour and also note signs of muscular rigidity, vomiting, increasing pain, or any other symptom appearing in conjunction with stead-

ily increasing pulse rate; then the surgeon should be called at once. The patient should be in a hospital under close observation. Hemaglobin test and blood count should be made.

TREATMENT.

The first and very essential factor is prevention of more shock, for which morphine is par-excellence, and next speed in doing all that is required in such emergencies. In no instance can Annoci technic, with which, no doubt, you are familiar, be used to greater advantage than in these injuries. Additional shock must be entirely avoided or reduced to the minimum. Novocain, 1 to 400 with oxygen and gas, is quite satisfactory. Immediate repair of a ruptured intestine should be the rule, but in some desperate cases it may be impossible only to give drainage and stitch the bowel to the peritoneum.

A median incision affords opportunity for thorough search of the injury in most cases. If much blood is present, look at once for a rupture in the mesentery, a very short tear near the root of the mesentery, involving the large vessels, will mean, perhaps, that several inches of the bowel will be deprived of its blood supply and a resection of that portion must be done. Wounds of the liver are difficult to suture, but hemorrhage can be controlled by gauze packing.

When hemorrhage has been stopped, more

deliberation may be taken in searching for rupture, or perforation in the bowel. It is best to make a systematic search by beginning at the ilio-cecal valve and trace the intestine through its course.

Perforations are best closed by silk, or linen Lambert sutures and reinforced by omental graft, if it is thought necessary.

In cases demanding resection, I believe that the Murphy Button is of no advantage in saving time, and has the disadvantage of a foreign body.

No one should undertake the operative treatment of abdominal injuries unless he is prepared to do an anastomoses with a needle and thread. Surely there are suture methods at the present time with which, if one is familiar, will enable him to make an anastomoses quickly and neatly.

SUMMARY.

That rupture of the abdominal viscera does occur without giving immediate symptoms of so serious an injury. Awaiting pronounced or very obvious symptoms it is often then too late.

A patient with a history of a severe abdominal injury should be sent to the hospital and kept under close observation; when any symptoms begin to manifest themselves, a laparotomy should be done at once.

Use every means to prevent additional shock to the patient. Morphine is always indicated in shock from whatever cause.

*I will be in Grand Rapids
August 31, September 1 and 2
Attending the
50th Annual Meeting
of the
Michigan State Medical Society*

Grand Rapids

Its Civic, Commercial and Social Environments

The Western Metropolis of Michigan and the second city of the state bids all the profession welcome during the Fiftieth Annual Meeting of the State Medical Society. It cordially invites not only the members but also the members' families and friends to participate in its hospitality.

largest in Michigan, and is often referred to as the "Metropolis of Western Michigan." In addition it is the metropolis of the most famous fruit belt in the world and the metropolis of the greatest summer resort territory between the two oceans.

The city was incorporated as such in 1850,



MONROE AVENUE—PANTLIND HOTEL IN THE DISTANCE.

We impart herewith a brief illustrated description of some of the city's civic, commercial and social environments.

GRAND RAPIDS, MICHIGAN.

The 1915 Convention of the Michigan State Medical Society will be held in the city of Grand Rapids. This city is the forty-fourth largest in the United States and the second

when it had a population of 2,500. Since that time it has marched steadily forward passing through no periods of stagnation and no periods of "mushroom" development, until today it is a city of upwards of 125,000 population.

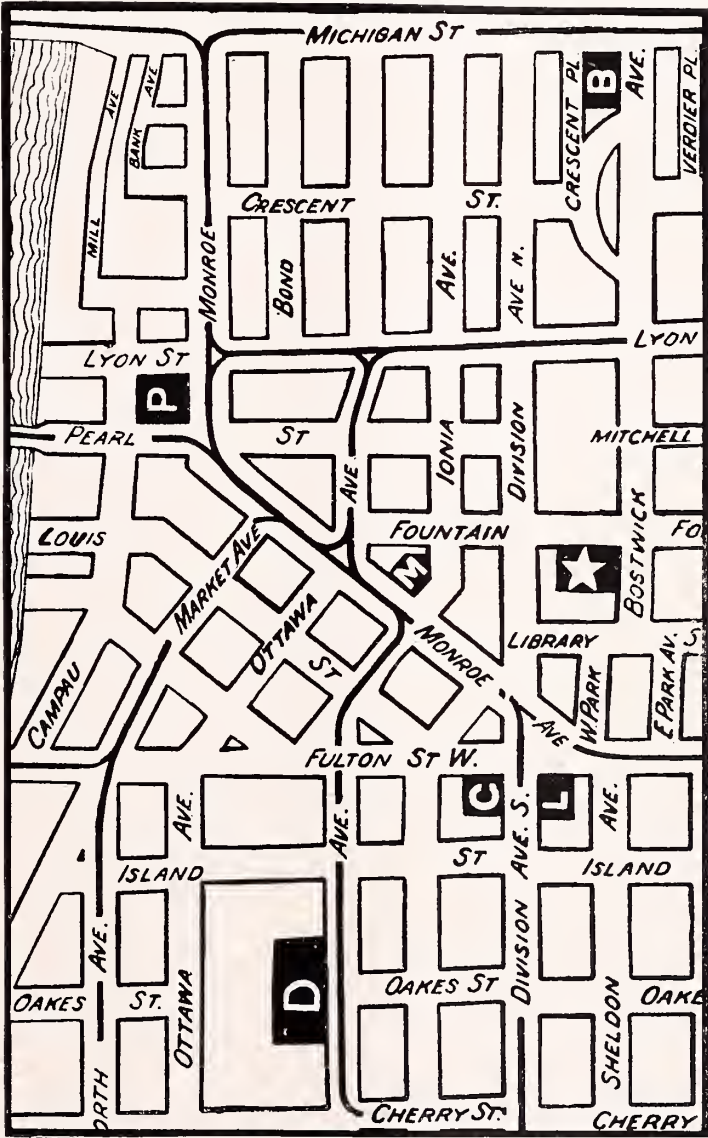
When it is realized that Grand Rapids is not located on a trunk line of railroad and is not located on a navigable body of water, it must be also realized that its remarkable development and industrial prestige must be the result of

something else besides natural location and facilities.

For over thirty years the business men of the city of Grand Rapids have been organized for the purpose of making the city bigger and better, with the emphasis on the "better." These business men have been just as anxious to see the town develop ethically as they have to see it grow commercially.

As a result of the efforts of the business and

of any of the large cities of the United States and the lowest death rate of the same class of cities east of the Mississippi River. This death rate is lower than that of the United States at large and lower than the rate for the state of Michigan or the city of Detroit. The reasons for this remarkable low death rate are numerous, but the principal ones are as follows: The rigid inspection of the milk supply of the city and the operation of a modern and most efficient



THE BUSINESS
CENTER OF
GRAND RAPIDS

- * Fountain Street Baptist Church
- P Pantlind Hotel
- C Cody Hotel
- L Livingston Hotel
- D Union Depot
- B Butterworth Hospital
- M Morton House

professional men and women of this city, certain conditions have sprung up within the city of which its citizens are extremely proud. The foremost among these conditions is the fact that Grand Rapids ranks second in the United States as to the per cent. of home ownership, being surpassed only by the city of Spokane, Washington. Forty-seven and nine-tenths per cent. of the homes in Grand Rapids are owned by the people who occupy them and Grand Rapids is in reality "A City of Homes."

Grand Rapids has the sixth lowest death rate

filtration plant; the maintenance of infant feeding clinics; the work of the Grand Rapids Anti Tuberculosis Society; the careful operation of the street railway system and the maintenance of the Blodgett Home, which enjoys the reputation of having the lowest death record for institutions of this character in the United States, if not in the world.

The banks of Grand Rapids have developed as the city has grown and during the sixty-five years of our existence as a city we have not had a bank failure. In fact the banks of this city

are so strong that it is embarrassing to the United States Government, which maintains a Postal Savings Department in the local post office, and the per cent. capita deposits in same are exceedingly low.

factories in Grand Rapids and many of them are engaged in an export business.

Our second largest industry is that of the flour and grist mills; our third industry is machinery and principally wood working ma-



A TYPE OF PUBLIC SCHOOL BUILDINGS.

According to the report of the State Factory Inspector in 1900 there were 324 factories located in Grand Rapids, and in 1914 this number had increased to 740. Of this 740, only 8 per cent. are furniture factories.

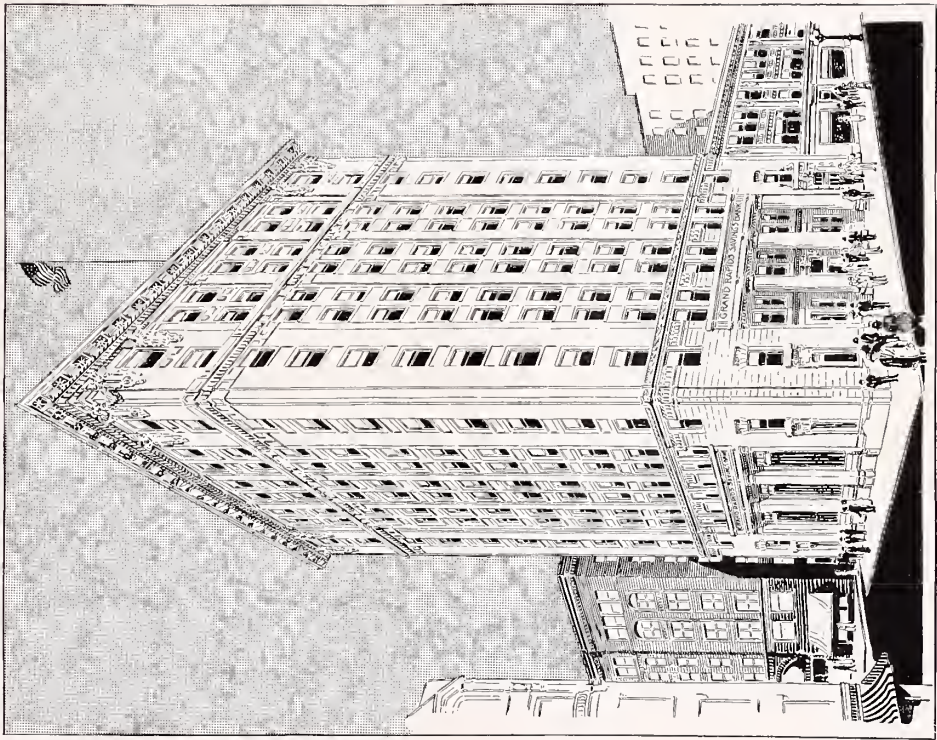
chinery; our fourth largest industry is printing. Grand Rapids enjoys the reputation of being one of the best printing cities in the United States, and once again this reputation is founded on quality and not on quantity.



NEW HOTEL PANTLIND

While it is a fact that Grand Rapids enjoys the reputation of being the greatest furniture market in the world, this reputation has been created by the quality of the furniture and not by the quantity of the furniture manufactured in this city. There are some fifty-five furniture

Besides being famous for the furniture manufactured in this city, we have located here the largest sticky fly paper factory in the world, the largest refrigerator factory in the world and the two largest show case factories in the world. We are the largest producers in the



GRAND RAPIDS SAVINGS BANK—Corner Ionia and Monroe Avenues.
Erection to Commence September, 1915.



PENINSULAR CLUB—Corner Fountain Street and Ottawa Avenue.

world of gypsum products; we have the largest window sash pulley factory in the world and the largest carpet sweeper factories in the world, also the only factory in the world manufacturing metal lacers for leather belts and machinery to fasten buttons on shoes. We have the largest



ONE OF THE DRIVES AROUND REED'S LAKE.



A SHADY LAKE IN JOHN BALL PARK.

factories in the United States manufacturing school seats and church pews, and the largest factory in the United States manufacturing manual training equipment.

As a wholesale center, Grand Rapids is practically the distributing point of all Western and Northern Michigan, Northern Indiana and Northwestern Ohio. We have wholesale houses

representing all the mercantile lines and these houses now do a business of upwards of \$40,000,000 annually.

During the past three years there has been constructed in Grand Rapids approximately \$11,000,000 worth of new buildings, among which are the second largest hotel in the state of Michigan, the largest Masonic Temple in the state, the second largest Young Mens Christian Association building in the state, a high school and several grade schools, a new hospital, new social club, new bank building, several new and modern manufacturing plants, and approximately 3,000 new residences.

Socially Grand Rapids has the reputation of being the largest city in the United States without a slum district, the largest city in the United States without a burlesque theatre, and one of the only cities in the state with its red light district entirely eliminated.

The business men of Grand Rapids support



KENT COUNTRY (GOLF) CLUB.

by annual contributions such institutions as the Grand Rapids Anti-Tuberculosis Society, the Social Welfare Association, the Infant Feeding Clinics, the Grand Rapids Association for the Blind, the D. A. Blodgett Home for Children, the Big Brothers Movement and several other philanthropic and charitable institutions.

In addition to providing the children of Grand Rapids with a common and high school education, our Board of Education has provided for a two year junior college course, giving the graduates two years credit at the University of Michigan and similar institutions, has provided for night schools and social centers, special instruction for exceptional children, and we enjoy the reputation of having the largest number of open air schools in proportion to our population of any city in the United States.

In order to make this city a better city in which to live, and in order to furnish as many



FILTRATION PLANT—DURING CONSTRUCTION.



ONE OF THE PLEASANT DRIVES IN JOHN BALL PARK.

of the conveniences of living as possible to as large a number of our citizens, we have succeeded in keeping down the cost of public utilities to such an extent that we have the lowest telephone rates of any large city in the United States; the second lowest water rates of any city from 100,000 to 300,000 population; the second lowest electric light and power rates for this same class of cities; the second lowest artificial gas rates for the large cities of the United States, and the lowest basic fire insurance rate of any city of 500,000 or under. Our

Association, a building which offered the privileges and attractions of other buildings in cities of the same class of Grand Rapids, and which might do as large and modern a work. This vision began to take shape in the spring of 1913, when the citizens of Grand Rapids pledged more than \$250,000 toward such a building, and on April 11, 1915, the completed building was thrown open to the public. This building contains all of the modern facilities needed for work among young men and boys, and so arranged that the very highest degree



NEW Y. M. C. A. BUILDING.

tax rate is below the average for cities of this size, and we are carrying a much smaller bonded indebtedness than the average for cities of 100,000 population or over.

It can truthfully be said that the Michigan State Medical Society will hold its 1915 convention in no mean city.

FIFTY YEARS OF PROGRESS.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

For a number of years some of the leading citizens of Grand Rapids had a vision of a modern building for its Young Men's Christian

of efficiency possible in doing this work may be obtained.

Grand Rapids with its population of 125,000 people, always has a large number of young men coming and going. To care for these young men properly, and to throw around them the best kind of influence, there was provided in this building 167 dormitory rooms with a total capacity of 207 young men. The rooms are equipped with the most practical and attractive furniture it was possible to obtain anywhere, all of which was purchased from Grand Rapids manufacturers. On the date of the writing of this article, sixty days after the opening of

the building, 179 young men were living in 157 of these rooms, leaving but ten rooms vacant. Each dormitory floor contains shower baths and all the necessary toilet facilities. Elevator service is furnished at all times, and switch board service from seven in the morning, until ten at night. There is no finer place any-

in social converse. In connection with the social room are to be found the barber shop and cafeteria, where it is the aim of the Association to furnish the very finest possible type of service at the most reasonable cost.

It is impossible to find anywhere a physical department which is more beautiful, and which

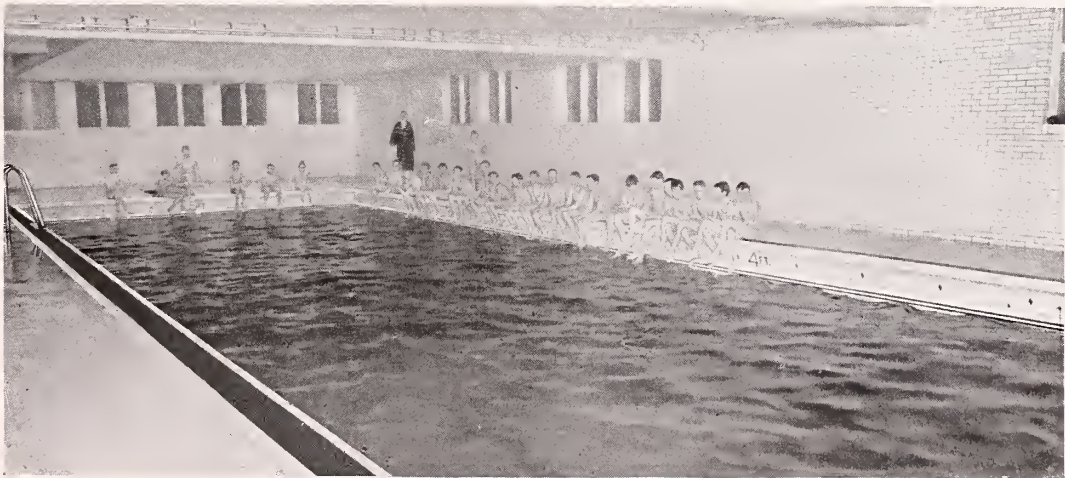


Y. M. C. A. GYMNASIUM FLOOR.

where for young men away from home to live than in the modern dormitory system of the Young Men's Christian Association.

As we make progress in the development of our civilization, we find it necessary to find some wholesome place for young men to congregate and spend their leisure time.

at the time offers the possibility of the very finest type of efficient supervision. The physical director from his office windows may control the swimming pool, both the large and small gymnasiums, and the wrestling and boxing room. The swimming pool contains 52,000 gallons of water which is being forced through



Y. M. C. A. SWIMMING POOL

The lobby of the boys' division furnishes a place for boys under 18 years of age to play games, and indulge in the various forms of recreation. The men's lobby furnishes a quiet place to read or converse with a friend, while the social room on the first floor with its billiard and pool tables, checker and chess games, offers to young men a place to spend many hours

a filter twice every twenty-four hours. This filtration plant makes it possible for the men and boys to indulge in the pastime and exercise of swimming and diving in a lake of filtered spring water. The shower rooms, locker rooms, and the steam room, are fitted with the very latest type of equipment for efficient and comfortable service. To those who find it necessary

to indulge in some regular form of exercise in order to keep up efficient health the seven hand-ball courts and the gymnasiums offer the op-



HAND BALL



JUNIOR SHOWERS

portunity for recreation and exercise in its various forms.

WORK OF THE GRAND RAPIDS ANTI-TUBERCULOSIS SOCIETY.

MRS. ETHEL McC. HENDRIKSEN,
Executive Secretary.

Vision on the part of a small group of prominent citizens led to a public meeting March 3, 1905, addressed by Dr. Victor C. Vaughan, Dean of the Medical Department of the University of Michigan, at which the Grand Rapids Anti-Tuberculosis Society was formed with eighty charter members. It had the distinction of being the first organization of its kind in the state of Michigan, although the Detroit Society was formed a few days afterward.

After ten years of educational work conducted with ever increasing emphasis, the Society has brought about a remarkable decrease in the tuberculosis death rate of the city. The average death rate per 100,000 population for three years before the organization of the Society was 121.7 as compared to an average of 95.4 in the last three years. The rate in 1914 was 87 per 100,000, the lowest in the city's history. Had the sanatorium facilities in city and state been adequate to meet the needs there is no doubt but that this rate could have been still lower.

The first step the Society took was the employment of a visiting nurse. At the present time five of these nurses are employed to visit patients in their homes and to assist at the free dispensary. The free tuberculosis dispensary was opened in 1908. At the present time it is serving an average of 160 patients a month and the Society retains two physicians, paying them a small amount for their services to be present at daily clinics. Early diagnosis at the tuberculosis clinic has been the means

of saving many lives and preventing tuberculosis. All cases are followed up in their homes by the nurses and careful instruction and supervision given.

Without the aid of publicity it was found impossible to properly finance the work. Five years ago the Society was spending less than \$1,000 annually in its work and having a hard time to raise this amount. At the present time the work is drawing to its support about \$10,000 a year. This growth can be traced entirely to the employment of an executive secretary and the building up of a business and educational department as an adjunct to the clinic and nursing division.

Tuberculosis education in Grand Rapids is carried on by means of exhibits, distribution of literature, moving picture films, lectures, newspaper write-ups and street car posters. The Society takes the initiative in the annual "Fly-less City" campaign, is interested in such subjects as municipal, factory and school sanitation, improving housing conditions and increasing healthful recreation facilities. The first open-air school in the city was the result of the interest taken by the local anti-tuberculosis society. Work in the rural schools of the county has been organized by the Society and is being financed by the Board of Supervisors who pay the salary of the nurse and provide an automobile for her use. The Society has taken an active interest in State and National organizations and has done its share to further the progress of the work.

Even with such advance as has been made in Grand Rapids, when compared to all that must be done in the campaign which earnestly hopes to exterminate tuberculosis, seems but a scratch on the surface. The Society has in view a more intensive campaign in every direction and this campaign will be put into effect as rapidly as the money is forthcoming. Nations do not hesitate to spend billions for war which has for its object destruction of human life, but all spend niggardly in campaigns which have life saving and health protection as their object. We must learn to regard expenditures for public health as investments for public well being and it is in educating public sentiment in this direction that anti-tuberculosis societies perform their greatest service in a community.

GRAND RAPIDS PUBLIC LIBRARY.

The Grand Rapids Public Library is the district library for the school district continuous with the city of Grand Rapids. As

Library Commissioners consisting of five persons elected at large, for a term of five years, one each year, with the Superintendent of Schools ex-officio, making six members in all.



RYERSON LIBRARY BUILDING.

such it is part of the educational machinery of the state, provided for in the state constitution. Legally it is separate and distinct from the city government.

The Library is administered by a Board of

Women vote for members of the Board and are eligible to membership on it. The Board is purely an administrative one. The title to all the property under its control is vested in the Board of Education.

The Library now contains over 150,000 catalogued books, and serves the public through ten branch libraries in various parts of the city. Before the end of the calendar year there will be twelve branch libraries in operation, in addition to the Ryerson Library building.

The latter building is one of the architectural features of the city. It is well worth a visit. At the time it was erected (1904) it was the largest and most costly building of any city of 100,000 population in the country, and this is still true of cities of the size of Grand Rapids with one or two exceptions. The building is the gift of Mr. Martin A. Ryerson of Chicago, who was born in Grand Rapids, and it is a testimony of his affection for his native place.

Besides the branch libraries there are deposit collections of books in some thirty school buildings and industrial establishments. Traveling library collections are sent to many institutions. All together there are ninety-one points in the city for the use and distribution of books.

The reading room feature of the Library has been greatly emphasized. Over 1,200 current periodicals, representing some 900 different titles, are on file. In the Ryerson building there is a special newspaper and magazine reading room, a children's reading room, a Michigan historical room, a general reference room, and medical reading room. In the latter some forty current medical periodicals are on file.

In addition to its regular work the Library gives every winter over 100 free lectures, both at the Ryerson building and at the branch libraries. Art exhibits are also given regularly in the Ryerson building, the walls of the corridor and of the lecture room being used for this purpose.

The historical collection which centers in the Michigan Room is one of considerable importance, said to be next to that of the great Burton collection of Detroit. There are over 20,000 books, pamphlets, maps, and manuscripts on Michigan history.

The reference work of the Library has been especially emphasized. Over 40,000 volumes are reference books. *Of these nearly 5,000 are medical works*, many of them now of historical interest only, having come to the Library from the Medical Library Association formerly in existence in this city.

Last year the number of persons who came to the Library to use it was over seven times the population of the city. Visitors to the city are always welcome, either to see the building or to use the materials in it.

DISTRICT NURSING ASSOCIATION

The District Nursing Association of Grand Rapids was first formed in 1893. It was then a department of the Charity Organization Society and remained under the management of that organization until 1908. In 1908 the work was reorganized and a separate society formed. At that time it was the only public health organization in the city and employed but three nurses. As the work grew there was found to be a need for special emphasis being given certain forms of disease and conditions and other nursing organizations were formed to meet this need.

The Association now employs six nurses. The nurses care for all kinds of cases except a



few of the contagious diseases and those are cared for by the Societies doing specialized nursing. It is the aim of the District Nursing Association to provide trained nurses to visit the sick in their homes, to care for them and to give instruction in the simple rules of hygiene and sanitation. Like all public health workers we realize the importance and necessity of preventive work. About one-third of the calls made can be classed under the head of supervision and instruction.

We endeavor to teach our people how to properly care for themselves and to guide them into better ways of living. This sometimes is more important than the bedside care given those who are ill.

The Association does not plan to give material relief but through the generosity of our friends, baby outfits are provided to those who need them and milk is supplied to our patients requiring extra nourishment. A loan closet is maintained from which sick room appliances, nightgowns, towels and bed linen are loaned families during illness.

Visits are made to the hospitals each week. Cases about to leave the hospital and requiring further care or supervision are reported and a nurse then visits the case. As in all our work

can afford to pay. By so doing we are able to reach many who otherwise would be deprived of skilled nursing, for the man earning a small salary does not wish a free service but he does



ARRIVAL OF DISTRICT NURSE.



THE SAME PATIENT, BED AND ROOM. WHAT THE NURSE ACCOMPLISHED.

cases requiring a nursing service must be under the care of a physician.

Our work is not limited to the poor alone. A charge of fifty cents is made to those who

wish his family to receive good care.

The Metropolitan Life Insurance Company give a visiting nursing service to its industrial policy-holders. This work in Grand Rapids is

done by our Association at the expense of the Metropolitan Life Insurance Company.

Through the generosity of the hospitals and guilds who give us the use of free beds we are able to provide hospital care for many of those who are seriously ill.

The success of the work has been largely due to the splendid support given by the medical profession and we wish to take this opportunity to express to them our appreciation for this co-operation.

three miles from Grand Rapids, Ramona has the immediate advantage of the lakeside resort in added beauty, swimming beaches and a beautiful boating rendezvous. Several private as well as public swimming schools and bath houses border the lake at which strangers may be assured the most courteous treatment as well as competent attendance. On the other hand boat liveries by the score have all varieties of launches, rowboats and canoes for the pleasure of guests at Ramona.



RAMONA SUMMER THEATRE.

RAMONA PARK.

Seldom, if ever, has nature provided a location where so many attractions, natural and otherwise, can be offered the refined amusement seeker, as at Ramona Park and seldom, if ever, has park management been more conscientious in providing for patrons than at Ramona. The result is an amusement park which has become nationally known for its many attractions, its natural beauty and for the refined people which visit it weekly throughout the summer season.

Situated on the west shore of Reed's Lake,

Just up from the lake on a high bank overlooking the lake is located Ramona Theatre, which is known from coast to coast among actor folk and theatre goers alike, as the prettiest and coolest summer theatre in the United States. Ramona Theatre has an additional reputation just as important, and that is that no person ever saw a show in this playhouse that offended. Vaudeville of exceptional merit is booked throughout the summer at Ramona and some of the best acts on the American stage may be seen here at probably the most moderate prices that prevail anywhere.

Back of Ramona Theatre and separated from it by an asphalt boulevard that runs across the middle of the park is the Dancing Casino which boasts the finest floor in Michigan as well as music throughout the season by a special orchestra. Here under competent instructors beginners are taught all the modern dance steps and dance lovers are able to find pleasure amid surroundings that could not be more carefully managed. The Casino is one of the most popular attractions at Ramona and architecturally is a credit to any resort with its California

ance of an attendant. Also the Circle Swing is a delight to the little ones. A trip out over the lake in this swing is a memory that any child will take away from Ramona.

Around Ramona's "Circle" will be found myriad other attractions such as Japanese Rolling Ball, shooting galleries, candy booths, fish ponds, ball throwing contests, miniature railways, etc.

The wealth of shade trees and the beautiful lawn slopes at Ramona need no artificial improvement to make this lakeside resort the ideal



RAMONA'S DANCING PAVILLION.

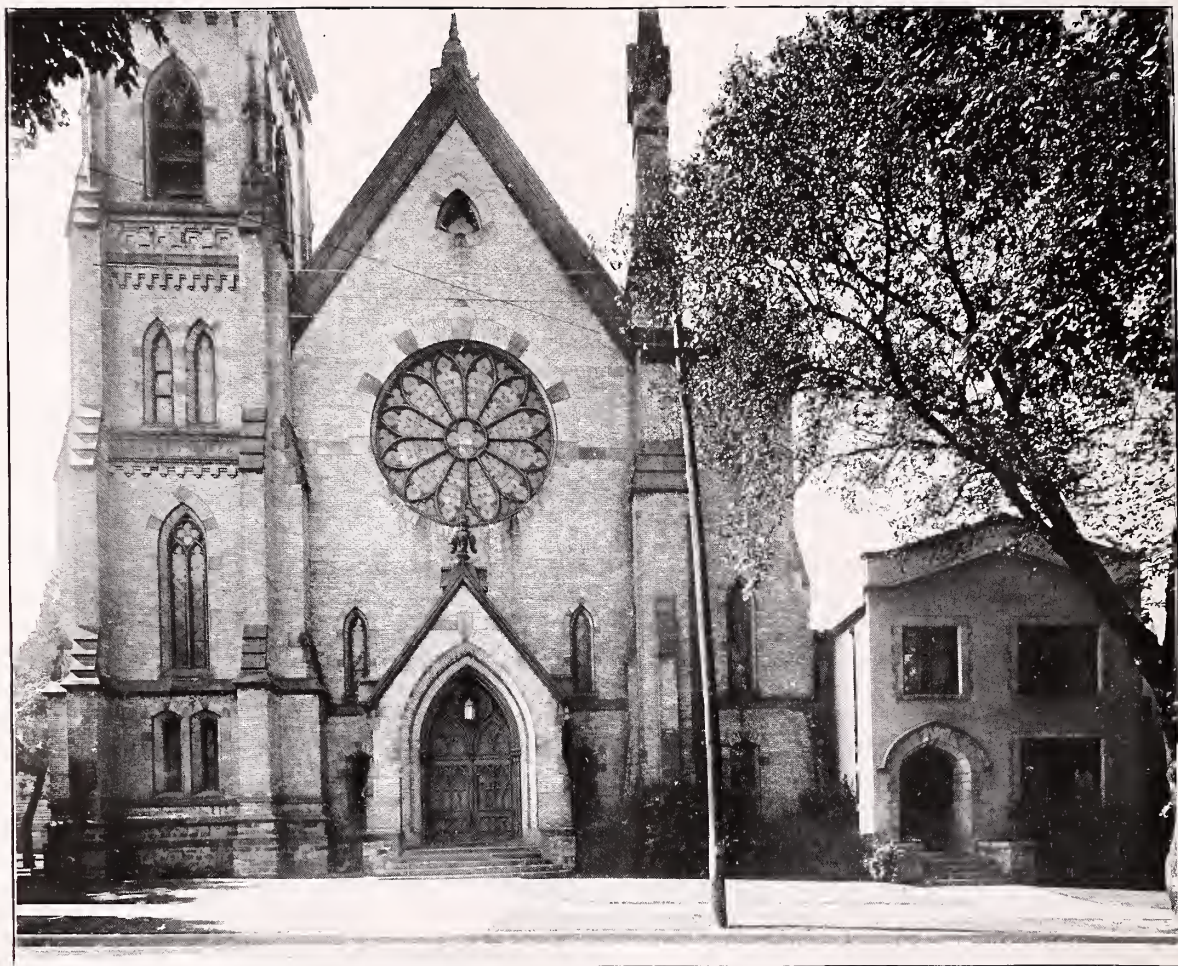
stucco construction and semi open air side walls.

Ramona Racing Coaster offers those in search of thrills, nearly a mile of excitement at a speed that nearly takes the breath. Two train loads run on adjoining tracks and take the several dips, hills and twists with startling rapidity. The roller coaster is constructed so as to provide assured safety and is carefully inspected each day.

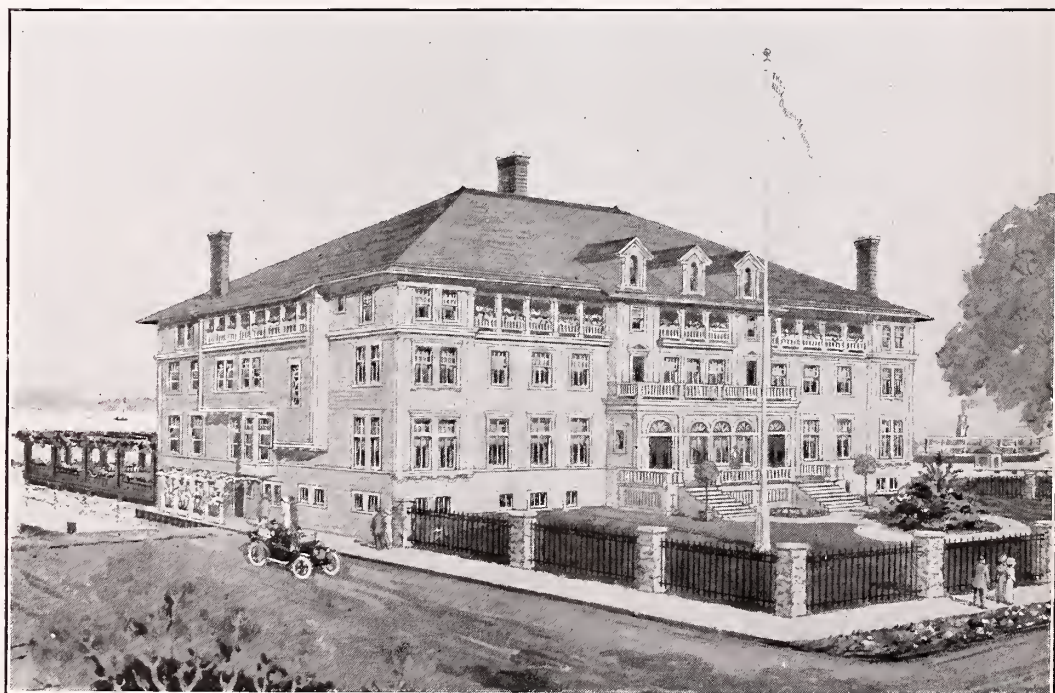
For children Ramona has the finest Carrousel built, with horses, chariots, camels and elephants for the kiddies to ride upon. Nearby is a pony livery where the children may ride real live ponies, always under the careful guid-

picnic spot of Grand Rapids. However, the management has added two splendid pavilions with plenty of chairs and tables for the convenience and comfort of picnickers and many a tired laborer has enjoyed, with his family, a Sunday picnic in this beauty spot.

Ramona has no paid entrance, the street cars carrying people directly into the park. It is only a fifteen minute ride from the center of Grand Rapids through the city's most beautiful residence section. By automobile, Ramona is reached via Grand Rapid's beautiful Lake Drive, past Fisk Lake and several of Michigan's most elaborate summer homes.



FOUNTAIN STREET BAPTIST CHURCH AND GUILD HOUSE.
Headquarters for all Sessions.



OWASHTANONG CLUB—Reed's Lake.

Official Program

50th Annual Meeting Michigan State Medical Society

Grand Rapids, Kent County

August 31, September 1 and 2, 1915

MEETINGS

THE COUNCIL will meet in regular session
 August 31 at 8 p. m., Pantlind Hotel.
 September 1 at 12:00 m.
 September 2 at 12:00 m.

THE HOUSE OF DELEGATES

Main Auditorium, Fountain St. Baptist Church.
 First Session. September 1 at 8 a. m. sharp.
 Second Session. September 2 at 8 a. m. sharp.

GENERAL SESSION

Main Auditorium, Fountain St. Baptist Church.
 First General Session. Sept. 1 at 10:30 sharp.
 Second General Session. Sept. 2 at 11:30 sharp.
Reuben Peterson, President.
F. C. Warnshuis, Secretary.

MEETING PLACES

The Fountain Street Baptist Church and its adjacent Guild House has been secured for quarters for all the several sessions. This church is centrally located at the corner of Fountain and Bostwick Street, five blocks from the Pantlind Hotel, two blocks from the Morton House and from three to five blocks from the other hotels.

The church is amply large to provide session rooms, as required.

The GENERAL SESSIONS and the HOUSE OF DELEGATES will meet in the church auditorium.

The SECTION ON SURGERY will hold its sessions in this same main auditorium.

The SECTION ON MEDICINE will hold its meetings in the Sunday School Room on the first floor; seating accommodations in this room are amply large enough to care for 500 people.

The SECTION ON GYNECOLOGY AND OBSTETRICS will meet in the auditorium on the second floor of the Guild House.

The SECTION ON OPHTHALMOLOGY AND OTO-LARYNGOLOGY will hold its meetings in the Rest Room on the first floor of the main building.

The EXHIBITS will be found on the first floor of the Guild House.

The REGISTRATION BOOTH AND INFORMATION BUREAU will be found in the main entrance to the Guild House, Fountain Street entrance.

With these arrangements there should occur no confusion, as all the session rooms are under one roof and intercommunicating.

SECTIONS

The four scientific sections will meet:

September 1 at 1:45 p. m.

September 2 at 9:00 a. m. and 1:30 p. m.

MEDICAL SECTION convenes in the Sunday School Room on the first floor of the **Guild House**.

SURGICAL SECTION convenes in the **main auditorium** of the church.

GYNECOLOGY AND OBSTETRICS SECTION convenes in the auditorium on the **second floor** of the **Guild House**.

EYE, EAR, NOSE AND THROAT SECTION convenes in the Rest Room on the **first floor** of the **main building**.

COUNTY SECRETARIES ASSOCIATION will hold its Seventh Annual Meeting and Dinner at the Peninsular Club, August 31 at 5 p. m.

C. B. Fulkerson, President.
J. A. Wessinger, Secretary.

REGISTRATION

Each member should register promptly on arrival and receive official program, entertainment features and badge. The Registration Booth will be in the Guild House. On Tuesday evening a temporary Registration Booth will be found in the lobby of the Pantlind Hotel.

ENTERTAINMENT

Tuesday Evening, August 31, 1915:

There will be a Buffet Luncheon and Smoker in the Monk's Room of the Peninsular Club (Cor.

Ottawa Ave. and Fountain St.) Entertainment will be provided until a late hour. The local profession hope that those arriving on late trains will come directly to the Club. This will be entirely informal.

Arrangements are perfected for unveiling "September Morn."

Wednesday Evening, September 1, 1915:

8:00 p. m., Owashtanong Club, Reeds Lake, President's Reception followed by dancing.

Vaudeville, 8:30 p. m., Ramona Theatre, Reeds Lake, just across from the Club. Tickets will be issued to those not caring to dance.

10:00 p. m. Refreshments will be served on the lower floor of the Owashtanong Club.

Golf. Those desiring to play golf will be provided with visitor's cards to the New Highlands Golf Club and the Kent Country Club.

LADIES' ENTERTAINMENT

Headquarters. Ladies' Literary Club, 59 Sheldon Ave., S. E. Please register. Local members of the committee will be in attendance at 9 a. m. and 2 p. m. to direct and accompany visiting guests about the city. Automobiles will be in waiting. Details of the entertainment features will be imparted on registration.

LADY PHYSICIANS

The woman physicians of the Kent County Medical Society request the presence of the visiting woman physicians September 1, from four until six o'clock at the residence of Dr. Frances A. Rutherford, 55 Sheldon Ave., S. E.

EXHIBITIONS

The scientific and commerical exhibits will be found in the Guild House.

HOUSE OF DELEGATES

Main Church Auditorium.

Reuben Peterson, President.

F. C. Warnshuis, Secretary.

FIRST SESSION.

September 1st at 8:00 A. M. Sharp.

ORDER OF BUSINESS:

1. Call to order.
2. Report of Committee on Credentials.
L. S. Ramsdell, Manistee, Chairman.
3. Roll call.
4. Presentation of minutes of 49th session.
5. Annual report of the Council.
W. T. Dodge, Big Rapids, Chairman.
6. Report of Committee on Legislation and Public Policy.
A. M. Hume, Owosso, Chairman

7. Report of Committee on Public Health Education.
Guy L. Kiefer, Detroit, Chairman.

8. Report of Committee on the Study and Prevention of Tuberculosis.
Victor C. Vaughan, Jr., Detroit, Chairman.

9. Report of Committee to Encourage the Systematic Examination of the Eyes and Ears of School Children Throughout the State.
W. R. Parker, Detroit, Chairman.

10. Report of Committee on Medical Education.
B. R. Shurly, Detroit, Chairman.

11. Report of Committee on Venereal Prophylaxis.
Udo J. Wile, Ann Arbor, Chairman.

12. Report of Committee on Specialties.
Emil Amberg, Detroit, Chairman.

13. Report of Committee on Compensation Fee Schedule.
C. B. Stockwell, Port Huron, Chairman.

14. Report of Delegates to A.M.A.
L. J. Hirschman, Detroit.

15. Election of Committee on Nominations.

The duty of this committee is to nominate:

- (a) 1st, 2nd, 3rd and 4th Vice-Presidents.
- (b) Delegate to A.M.A. to succeed E. T. Abrams.
- (c) Councilors for 1st, 3rd, 6th, 11th and 13th Districts; A. P. Biddle, S. K. Church, A. M. Hume, W. T. Dodge and F. C. Witter retiring.
- (d) To recommend place for holding the Fifty-first Annual Meeting.

The Nominating Committee is to be elected at the First Session of the House of Delegates. No two members of this committee shall be from the same councilor district.

16. Appointment of Committees by President:
 - (a) Business Committee.
 - (b) Special Working Committees.
17. Miscellaneous Business.
18. New Business.
19. Adjournment to General Session.

SECOND SESSION

Thursday, Sept. 2nd, 8:00 A. M. Sharp.

1. Roll Call.
2. Reading minutes of previous session.
3. Report of Business Committee.
4. Report of Special Committees.
5. Report of Nominating Committee.
6. Election of Officers.
7. Miscellaneous Business.
8. Adjournment *sine die*.

HOUSE OF DELEGATES.—DELEGATES AND ALTERNATES TO THE FIFTIETH ANNUAL MEETING.

Note.—The black face type is that of the delegate; the other that of the alternate.

ALPENA—Branch No. 46

(One Delegate)

ANTRIM, CHARLEVOIX, EMMET—

Branch No. 41

G. E. Frank, Harbor Springs.

J. J. Reyecraft, Petoskey.

BARRY—Branch No. 26

G. W. Lowry, Hastings

J. G. McGuffin, Hastings

BAY—Branch No. 4

C. A. Stewart, Bay City

A. F. Stone, Bay City

E. Goodwin, Bay City

J. C. Grosjean, Bay City

BENZIE—Branch No. 59

(One Delegate)

BERRIEN—Branch No. 50

C. W. Merritt, St. Joseph

E. J. Witt, St. Joseph

BRANCH—Branch No. 9

W. A. Griffith, Coldwater

H. W. Whitmore, Quincy

CALHOUN—Branch No. 5

E. L. Eggleston, Battle Creek

W. L. Godfrey, Battle Creek

C. E. Stewart, Battle Creek

CASS—Branch No. 36

J. H. Kelsey, Cassopolis

E. W. Tonkin, Vandalia

CHEBOYGAN—Branch No. 58

C. B. Tweedale, Cheboygan

W. R. Stringham, Cheboygan

CHIPPEWA-LUCE—Branch No. 35

J. J. Lyon, Sault Ste. Marie

E. H. Webster, Sault Ste. Marie

CLINTON—Branch No. 39

E. L. Martin, Maple Rapids

A. C. Hart, St. Johns

DELTA—Branch No. 38

Jas. Mitchell, Gladstone

A. H. Miller, Gladstone

DICKINSON-IRON—Branch No. 56

J. A. Crowell, Iron Mountain

C. F. Larson, Crystal Falls

EATON—Branch No. 10

A. R. Stealy, Charlotte

A. H. Burleson, Olivet

GENESEE—Branch No. 24

H. A. Stewart, Flint

W. G. Bird, Flint

C. P. Clark, Flint

J. C. Benson, Flint

GOGEBIC—Branch No. 52

E. H. Madajeski, Bessemer

R. A. Paradise, Bessemer

GRATIOT—Branch No. 25

W. E. Barstow, St. Louis

C. M. Denny, Middleton

HILLSDALE—Branch No. 3

(One Delegate)

HOUGHTON—Branch No. 7

P. D. McNaughton, Calumet

J. G. Turner, Houghton

HURON—Branch No. 47

(One Delegate)

INGHAM—Branch No. 40

J. G. Rulison, Lansing

F. M. Huntley, Lansing

IONIA—Branch No. 16

R. R. Whitten, Ionia

ISABELLE-CLARE—Branch No. 54

M. F. Brondstetter, Mt. Pleasant

W. A. Young, Shepherd

JACKSON—Branch No. 27

W. A. Gibson, Jackson

P. I. Edwards, Jackson

KALAMAZOO—Branch No. 64

Alice B. Ellsworth, Kalamazoo

Ed. J. Bernstein, Kalamazoo

J. H. Van Ness, Allegan

J. C. Maxwell, Paw Paw

N. L. Goodrich, South Haven

B. A. Shepard, Kalamazoo

KENT—Branch No. 49

J. D. Brooks, Grandville

R. C. Apted, Grand Rapids

A. J. Baker, Grand Rapids

Wm. H. Veenboer, Grand Rapids

A. V. Wenger, Grand Rapids

N. H. Kassabian, Coopersville

LAPEER—Branch No. 23

Peter Stewart, Hadley

S. A. Snow, North Branch

LENAWEE—Branch No. 51

I. L. Spaulding, Hudson

LIVINGSTON—Branch No. 6

R. H. Baird, Howell

H. G. Huntington, Howell

MACOMB—Branch No. 48

A. J. Warren, Mt. Clemens

Jos. Croman, Mt. Clemens

MANISTEE—Branch No. 48

L. S. Ramsdell, Manistee

H. D. Robinson, Manistee

MARQUETTE-ALGER—Branch No. 28

Carl F. Moll, Kenton
A. W. Hornbogen, Marquette

MASON—Branch No. 17

C. M. Spencer, Free Soil
Geo. Gray, Ludington

MECOSTA—Branch No. 8

J. B. Campbell, Stanwood
Geo. H. Lynch, Big Rapids

MENOMINEE—Branch No. 55

(One Delegate)

MIDLAND—Branch No. 43

G. Sjolander, Midland
F. A. Towsley, Midland

MONROE—Branch No. 15

Victor Sisung, Monroe
F. C. Theide, Monroe

MONTCALM—Branch No. 13

Wm. H. Lester, Greenville
E. P. Bunce, Trufant

MUSKEGON-OCEANA—Branch No. 61

V. A. Chapman, Muskegon
F. B. Marshall, Muskegon

NEWAYGO—Branch No. 50

Willis Geerlings, Reeman
G. G. Burns, Fremont

OAKLAND—Branch No. 5

(One Delegate)

O. M. C. O. R. O.—Branch No. 11

C. C. Curnalia, Roscommon
A. C. MacKinnon, Lewiston

ONTONAGON—Branch No. 66

E. A. Florentine, Ewen

OSCEOLA-LAKE—Branch No. 30

Aug. Holm, LeRoy

OTTAWA—Branch No. 32

J. J. Mersen, Holland
W. G. Winter, Holland

PRESQUE ISLE—Branch No. 63

(One Delegate)

SAGINAW—Branch No. 14

Robt. McGregor, Saginaw
A. R. McKinney, Saginaw

SANILAC—Branch No. 20

G. S. Tweedie, Sandusky
J. W. Scott, Sandusky

SCHOOLCRAFT—Branch No. 57

W. J. Saunders—Manistique
Andrew Nelson, Manistique

SHIAWASSEE—Branch No. 33

J. A. Rowley, Durand
J. N. Eldred, Chesaning

ST. CLAIR—Branch No. 45

A. J. MacKenzie, Port Huron
W. H. Morris, Port Huron

ST. JOSEPH—Branch No. 29

R. E. Dean, Three Rivers
D. K. Andrews, Three Rivers

TRI COUNTY—Branch No. 62

R. J. E. Oden, Cadillac
C. B. Babcock, Kalkaska

TUSCOLA—Branch No. 44

C. W. Clark, Caro
U. G. Spohn, Fairgrove

WASHTENAW—Branch No. 42

John A. Wessinger, Ann Arbor
Wm. Blair, Ann Arbor
Jas. G. VanZwaluwenburg, Ann Arbor
Jas. F. Breakey, Ann Arbor

WAYNE—Branch No. 2

H. R. Carstens, Detroit
F. B. Tibbals, Detroit
F. N. Blanchard, Detroit
J. A. MacMillen, Detroit
H. J. Hirschman, Detroit
R. C. Andries, Detroit
J. W. Vaughan, Detroit
Florence Huson, Detroit
W. C. Lawrence, Detroit
D. M. Campbell, Detroit
G. E. Frothingham, Detroit
H. W. Hewitt, Detroit
C. E. Simpson, Detroit
Jas. Cleland, Jr., Detroit
A. F. Jennings, Detroit
W. I. Wilson, Jr., Detroit
L. F. C. Wendt, Detroit
J. V. White, Detroit
G. A. Bulson, Detroit
R. K. Johnson, Detroit
R. C. Jamieson, Detroit
C. McClelland, Detroit
H. R. Varney, Detroit
G. E. McKean, Detroit
F. T. McCormock, Detroit
H. A. Freund, Detroit
J. H. Boulter, Detroit
J. W. Cunningham, Detroit
E. W. Mooney, Detroit
H. K. Shawan, Detroit

GENERAL SESSIONS

Place. Main Auditorium.

Sept. 1 at 10:30 A. M.

President—REUBEN PETERSON, Ann Arbor
Vice-President—L. W. TOLES, Lansing
Secretary—F. C. WARNSHUIS, Grand Rapids

1. Call to order.
2. Invocation—Rev. Alfred W. Wishart.

3. Address of welcome—Mayor Geo. Ellis.
4. Address of welcome—Eugene Boise, M.D., representing F. C. Warnshuis, President, Kent County Medical Society.
5. Response on behalf of the Society by President Reuben Peterson, Ann Arbor.
6. Report of House of Delegates—F. C. Warnshuis, Secretary.
7. Annual Address of the President. "The Past, Present and Future of the Michigan State Medical Society."
Reuben Peterson, Ann Arbor.
8. Address. "The Medical Schools of the Last Half Century."
Theo. A. McGraw, Detroit.
Charter Member of the State Society.
9. Address. "Retrospect of the Early History of the Michigan State Medical Society."
Geo. E. Ranney, Lansing.
Charter Member of the State Society.
10. Miscellaneous Business. Under this head there will be a general discussion of medical economics. The opportunity is presented to every member to bring before the Society any subject of general interest either by informal discussion or formal resolution.
11. Nominations for President 1915-1916.
12. Adjournment.

SECOND GENERAL SESSION.

Sept. 2, 1915 at 11:30 A. M.

1. Reading of minutes.
2. Unfinished business.
3. Report of House of Delegates.
4. Miscellaneous Business.
5. Announcement result of ballot for President.
6. Introduction of President-elect.
7. Resolutions.
8. Adjournment *sine die*.

COUNTY SECRETARIES' ASSOCIATION—SEVENTH ANNUAL MEETING.

Tuesday Afternoon, 5:00, Peninsular Club Building—Monk's Room.

President—C. B. Fulkerson, Kalamazoo.
Secretary—J. A. Wessinger, Ann Arbor.

Order of Business.

1. Call to order and roll call.
2. Association Business.
3. Election of officers.

Adjournment to Dining Room.

4. Dinner as Guests of The Council.
5. Round Table Discussion of County Society Work and Secretaries' Activities.

Every county secretary is not only invited but is urged to attend this meeting. The value of this meeting to every secretary cannot be over-estimated. The Council especially requests your presence. Will you not come?

SECTION ON GENERAL MEDICINE.

Chairman—Burton R. Corbus, Grand Rapids.
Secretary—Benjamin A. Shepard, Kalamazoo.

First Session, Wednesday, Sept. 1, 1:45 p. m.

(The Secretary will collect all papers as soon as they are read.)

1. Chairman's Address.
Burton R. Corbus, Grand Rapids.
2. "Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis."
Collins H. Johnston, Grand Rapids.
3. "Tuberculosis in Children."
John B. Jackson, Kalamazoo.
4. "Miliary Tuberculosis of the Lungs in the Senile Period."
Eva Rawlings, Kalamazoo.

Second Session, Thursday, Sept. 2, 9:00 a. m.

1. "Heart Disease in Children."
Walter J. Wilson, Jr., Detroit.
2. "The Practical Value of the Polygraph in the Diagnosis of Cardiac Disorders."
Chas. F. Stewart, Battle Creek
3. "The Anxiety Neuroses in Their Relation to Neurological and Somatic Symptoms."
Albert M. Barrett, Ann Arbor.
4. "Pyelo-Cystitis in Infancy."
Clifford G. Grulee, Chicago, Ill.

Third Session, Thursday Sept. 2, 1:45 p. m.

1. Election of chairman for one year; secretary for two years.
2. "The Roentgen Ray as an Aid in the Diagnosis of Intracranial Pathology."
Preston M. Hickey, Detroit.
3. "The Differential Diagnosis Between Biliary Tract Infections and Gastric and Duodenal Ulcer."
Chas. L. Mix, Chicago.
4. (Subject to be announced later.)
Victor C. Vaughan, Ann Arbor.

SECTION ON SURGERY.

Chairman—C. D. Munro, Jackson.
Secretary—Alex. M. Blain, Detroit.

(The Secretary will collect all papers as soon as they are read.)

First Session, Wednesday, Sept. 1, 1:45 p. m.

1. "Surgical Prognosis."
Frank B. Walker, Detroit.
 2. "Surgery in a Country Hospital."
W. J. Herrington, Bad Axe.
 3. "The Diagnosis of the Common Surgical Lesion of the Kidney."
Daniel N. Eisendrath, Chicago, Ill.
- Discussants
1. Max Ballin, Detroit.
 2. Wm. J. Cassidy, Detroit.

4. "Congenital Hypertrophic Stenosis of the Pylorus."

Arthur O. Hart, St. Johns.

- Discussants 1. A. D. McAlpine, Detroit.
2. R. E. Balch, Kalamazoo.

5. "Renal Tuberculosis."

Geo. Potter, Detroit.

- Discussants 1. Ray Stone, Battle Creek.
2. V. L. Tupper, Bay City.

Second Session, Thursday, Sept. 2, 9:00 a. m.

1. "Ureteral Obstruction. Report of an Unusual Case."

Frank C. Witter, Petoskey.

- Discussants 1. Fredk. C. Cole, Detroit.
2. John Dodds, Detroit.

2. (Subject to be announced later.)

Fredk. Albee, New York City.

- Discussants 1. A. LaFerte, Detroit.
2. A. M. Campbell, Grd. Rap.

3. "Gas Bacillus Infection."

Angus McLean, Detroit.

(Class of wounds infected, evidence of infection, consequences and treatment.)

- Discussants 1. C. G. Darling, Ann Arbor.
2. Ray Andries, Detroit.

4. "The Use of Duodenotomy as a Method for Removing Common Duct and Pancreatic Calculi." (Lantern Slides.)

Geo. M. Tood, Toledo, Ohio.

- Discussants 1. Clark D. Brooks, Detroit.
2. Max Ballin, Detroit.

5. "A Consideration of the Anatomy, Pathology and Surgery of the Knee Joint." (Lantern Slides.)

Alexander M. Campbell, Grand Rapids.

- Discussants 1. Frank A. Kelly, Detroit.
2. W. Ballard, Bay City.

Third Session, Thursday, Sept. 2, 1:45 p. m.

1. Election of Chairman for ensuing year.

2. "Retrocaecal Appendicitis."

H. W. Hewitt, Detroit.

- Discussants 1. J. J. Raycraft, Petoskey.
2. H. E. Randall, Flint.

3. (Subject to be announced later.)

Frank W. Robbins, Detroit.

- Discussants 1. Grand Rapids.
2. D. E. Robinson, Jackson.

4. "Recent Advances in Orthopedic Surgery."

Wm. E. Blodgett, Detroit.

- Discussants 1. Daniel LaFerte, Detroit.
2.

5. "Peritoneal Adhesions and Intestinal Stasis."

J. A. MacMillan, Detroit.

- Discussants 1. L. J. Hirschman, Detroit.
2. F. B. Marshall, Muskegon.

SECTION ON GYNECOLOGY AND OBSTETRICS

Chairman—A. Wellington Yates, Detroit.

Secretary—Walter M. Manton, Detroit.

First Session, Wednesday, Sept. 1, 1:45 p. m.

(The Secretary will collect all papers as soon as they are read.)

1. Chairman's Address.

2. "Obstetrical Practice in Rural Districts."

C. T. Southworth, Monroe.

3. "The Necessity of Lying-in Hospitals."

E. Gustave Zinke, Cincinnati, Ohio.

4. Symposium on "Obstetrical Anesthesia."

(a) Ether.

Boston, Mass.

(b) Chloroform.

W. H. Morley, Detroit.

(c) Scopolamin-Morphine.

Chas. E. Boys, Kalamazoo.

(d) Gas and Oxygen.

N. Sproat Heaney, Chicago, Ill.

Discussion opened by John Bell, Detroit.

Second Session, Thursday, Sept. 2, 9:00 a. m.

1. Subject later.

Eugene Boise, Grand Rapids.

2. "Uterine Discharges: Their Pathology and Treatment."

E. K. Cullen, Detroit.

3. "Cancer of the Uterus."

W. P. Manton, Detroit.

4. "The Primary and End Results in Inoperable Carcinoma of the Cervix Treated by the Cautery Method."

Ward F. Seeley, Ann Arbor.

Discussion opened by F. C. Warnshuis, Grand Rapids.

5. "Further Remarks on the Psychological Aspect of Surgical Cases."

C. W. Moots, Toledo, Ohio.

Discussion opened by R. Parmeter, Detroit.

Third Session, Thursday, Sept. 2, 1:45 p. m.

1. Election of Chairman for one year.

2. "Gynecology."

Stuart Galbraith, Pontiac.

3. "Local Anesthesia in Abdominal Surgery."

J. H. Jacobson, Toledo, Ohio.

Discussion opened by Richard Smith, Grand Rapids.

4. "Conservative Surgery of the Ovary."

J. H. Carstens, Detroit.

5. "Roentgen Therapy in Certain Gynecological Affections."

Wm. A. Evans, Detroit.

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY.

Chairman—Stanley G. Miner, Detroit.

Secretary—Wilfred Haughey, Battle Creek.

First Session, Wednesday, Sept. 1, 1:45 p. m.

1. Chairman's Address.

Stanley G. Miner, Detroit.

2. Curettage of the Eustachian Tube in Treatment of Chronic Suppurative Otitis Media after Yankauer's Method.

J. E. Gleason, Detroit.

3. Treatment of the Detached Retina by the Sclero-trephine Operation.

Walter R. Parker, Detroit.

4. Abscess of the Tongue.
J. Vernon White, Detroit.
5. Development of the Accessory Sinuses.
P. M. Hickey, Detroit.

Second Session, Thursday, Sept. 2, 9:00 a. m.

1. The Effect of Loud Noises on the Organ of Corti.
E. J. Bernstein, Kalamazoo.
2. The Relation of Localized Headaches and Some Organic Eye Lesions to Intra-nasal Accessory Sinus Diseases.
P. J. Livingstone, Detroit.
3. Observations from Tonsil Operations Some Years Later.
B. R. Shurley, Detroit.
4. Vincents Agina with Report of Cases.
B. N. Colver, Battle Creek.

Third Session, Thursday, Sept. 2, 1:45 p. m.

1. Election of Officers.
Chairman for one year.
Secretary for two years.
2. Report of the Committee on Vaccine Therapy
C. H. Baker, Bay City.
3. "Osteoma of the Frontal Sinus, with Report of Case."
V. A. Chapman, Muskegon.
4. "Evolution of the Teeth and Nasal Development."
Detroit.

LOCAL DIRECTORY AND INFORMATION

1. **The Union Depot** is located on Ionia Ave. and Oakes Street. Roads entering this depot are: Pere Marquette, Grand Rapids & Indiana, Michigan Central. Take cars passing depot for Morton House and Pantlind Hotel.
2. **Grand Trunk Depot** is located on Michigan Street and Grand River. Cars going east in front of depot take you to all hotels.
3. **Interurban Depot**—Lyon Street and Monroe Ave., on the north side of the Pantlind Hotel. Kalamazoo and Holland Interurban roads.
4. **Pantlind Hotel**, Monroe Ave., Lyon and Pearl Streets.
5. **Morton House**, Monroe Ave. and Ionia St.
6. **Cody Hotel**, Division Ave. and Fulton St.
7. **Livingston Hotel**, Division Ave. and Fulton Street.
8. **Peninsular Club**, Corner of Ottawa Ave. and Fountain St., half block from Monroe Ave. One block from Morton House. Two and one-half blocks from Pantlind Hotel. Three blocks from Fountain Street Baptist Church.

9. **Fountain Street Baptist Church**, corner of Fountain St. and Bostwick Ave.

From Pantlind Hotel walk up Pearl St. three blocks to Division Ave.; turn south (right) one block to Fountain Street; turn east (left) one block to church.

From Morton House. Go one block north to Fountain Street, turn east (right) two blocks to church.

From Cody and Livingston. Go north three blocks crossing Monroe Ave. to Fountain Street; turn east (right) one block to church.

10. **Owashtonong Club and Reeds Lake, Ramona Theatre.** Take anywhere on Monroe Ave. the following street cars going east:
Cherry and Shawmut
Wealthy-Taylor
Wealthy-Scribner.

Twenty minutes ride; fare five cents.

The Owashtonong Club House is on the east, (lake) side, of Ramona Park.

Official Badge must be shown at the door to gain admittance to Club.

Tickets to theatre and concessions are to be obtained of the Entertainment Committee at Registration Booth. No tickets will be issued after 5 p. m., September 1.

11. Street cars run from 6 a. m. to 1 a. m.
Last car leaves Reeds Lake at 11:50 p. m.
12. Central Standard Time.
13. Daily Papers—Grand Rapids Herald (morning), Grand Rapids Press and Daily News.
14. Telephones—Citizens and Bell (local and long distance.)
15. Don't hesitate to ask members of local Society when in quest of any information.

LOCAL ENTERTAINMENT COMMITTEE

D. Emmet Welsh, General Chairman,
F. C. Kinsey, General Secretary,
W. J. DuBois, Councilor 5th District,
F. C. Warnshuis, President Kent County Medical Society.

Committee Chairmen:

Hall—R. H. Spencer,
Exhibits—F. J. Lee,
Entertainment—B. R. Corbus and entire membership of the Kent County Medical Society.
Reception—J. D. Brook,
Finances—F. C. Kinsey,
Badges—A. V. Wenger,
Ladies—Frances A. Rutherford.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Arthur M. Hume, ChairmanOwosso.
A. P. BiddleDetroit.
W. J. KayLapeer.
W. J. DuBoisGrand Rapids.

EDITOR

FREDERICK C. WARNSHUIS
Grand Rapids, Mich.

All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscriptions are to be addressed to Frederick C. Warnshuis, M. D., 91 Monroe Ave., Grand Rapids, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

Subscription Price—\$3.50 per year, in advance.

August

Editorials

TUBERCULOSIS DAY.

As announced in the July issue, August 20th has been designated as Tuberculosis Day in Michigan. Our Anti-Tuberculosis Committee proposes to make this day reveal the number of cases of tuberculosis in Michigan. To this end they request all physicians to examine, free of charge, all persons presenting themselves, and to report the findings on the special blanks that may be secured from your county secretary. An extra blank will also be found in the July and August Journals—see advertising pages. Please mail these blanks promptly so that the results may be announced in the Committee's report at the Annual Meeting.

United co-operation and interest will cause this day and the movement back of it to be productive of the greatest good. Will you not individually assume the responsibility in your county? Interview the editors of your local papers. Ask them to give this day publicity so that the greatest number of people in your community submit to examination. Have your mayor or village president issue a special proclamation. Interest the clergy and request them to make an announcement at all their services on the Sunday previous to August 20th. The widest publicity possible is desired. Will you not obtain it by your help?

We as a state and profession are again in the lead in presenting this method of attack in the movement that seeks to eradicate tuberculosis. It is incumbent upon every member to make this a successful undertaking. We need your aid, enthusiasm and services. The end result is dependent upon the physicians of the state. Again we urge your interest and support. Kindly refer to the July Journal for all the details.

TUBERCULOSIS DAY.

While even the most optimistic anti-tuberculosis workers should not look for any unanimous action on the part of the physicians in extending to the public, or the public in availing themselves of medical examinations without charge to ascertain who has symptoms of tuberculosis, as requested in the Governor's proclamation naming Friday, Aug. 20, 1915 as Tuberculosis Day, still this extending to the rural districts, if even for only one day, the advantages of the free tuberculosis clinic constantly enjoyed in cities in Michigan of over 100,000 population is but one example of the advanced stand in sanitary and hygienic matters taken by the present governor of this state. The free tuberculosis clinic and the visiting tuberculosis nurse will discover unsuspected cases of the disease, and the publicity given the work and to the danger of infection by these two agencies will arouse the people to the necessity of isolating each focus of infection.

This brings us face to face with the necessity of providing as many sanatoriums as are necessary to provide accommodations for as many patients as are willing or can be induced to accept admission thereto. Observe the use of the word "accept" and not of the word "seek." While most of our patients could afford to pay for hospital accommodations for the few weeks necessary for treatment of a case of appendicitis, typhoid or scarlet fever, very few can afford the expense of the two years necessary for the treatment of a case of tuberculosis. So our tuberculosis patients should not be advised to seek admission to a sanatorium but the privileges of the sanatorium should be freely extended to them, and they should be given to understand that they are conferring a favor on the community in accepting said privileges, bearing in mind at all times that the prevention of contagion is of more importance than the cure of the disease.

From the standpoint of the patient as well

as from the standpoint of the community the value of the tuberculosis sanatorium as an educational unit is underestimated. From the standpoint of the patient for the reason that patients who have been inmates of tuberculosis sanatoriums invariably on returning to their homes continue the precautions necessary for the avoidance of contagion, and by their example are an object lesson to others in the importance of hygiene; and from the standpoint of the community for the reason that wherever a tuberculosis sanatorium has been established in a community, interest in the control of the disease advances by leaps and bounds.

So let us all unite in making "Tuberculosis Day" a day in which the privileges of the free tuberculosis clinic will be extended to all the people of the state, and after this day has passed let us continue our efforts until an absolutely free tuberculosis sanatorium is established in every community in the state. Let us impress the fact upon the minds of the people that the community and not the patient is the greater beneficiary thereof and that the community should pay the bills.

W. J. O'REILLY.

FEE SCHEDULE.

To the Members of the Michigan State Medical Society:

That a satisfactory fee bill may be secured to be used in connection with the Workmen's

Compensation Law, the following draft of a medical and surgical fee bill is being submitted to each county society for an expression of approval or disapproval.

The committee having this fee bill in charge desires each county society to take action upon it before the annual meeting that the delegates may voice their opinions at that time.

The work of the committee has been unavoidably delayed for some months owing to an effort having been made during the recent session of the State Legislature to make some changes in the Workmen's Compensation Law.

The fee bill has been worked out from the New York, California and Ohio state bills—the best bills so far formulated.

None of these bills are more liberal, and in a number of items are not so liberal as the proposed bill enclosed. The Committee, therefore, hopes it will meet with your approval.

In considering our own interests we, of course, cannot lose sight of the interests of the employers and employees of our varied state industries, and the interests of the accident insurance companies, and also of the fact that whatever scale of fees may be satisfactory to the medical men of the state, must meet the approval of that Industrial Accident Board at Lansing before it can be put in effect.

C. B. STOCKWELL, Chairman
F. C. WARNSHUIS
B. M. DAVEY
Committee.

MEDICAL AND SURGICAL FEE BILL.
SCHEDULE OF RATES.

Recommended by the Committee appointed at the last meeting of the Michigan State Medical Society to revise the present schedule and to submit such revision to each county society of the state for adoption or rejection.

SPECIFIC INJURIES	A	B	C
	Flat Rate First Aid Operation and treatment for three weeks	Operation only	Total Limit Full subsequent treatment for three weeks Additional to Column B only
AMPUTATIONS—			
Hip	75.00	50.00	25.00
Thigh	50.00	35.00	15.00
Foot	50.00	35.00	15.00
Leg	50.00	35.00	15.00
Shoulder Joint	55.00	40.00	15.00
Arm, forearm or hand	50.00	35.00	15.00
Metatarsal or metacarpal, one	20.00	10.00	10.00
Metatarsal or metacarpal, two or more	25.00	15.00	10.00
Finger or toe, one	15.00	10.00	5.00
Finger or toe, two or more	20.00	15.00	5.00
Ankle Joint	50.00	35.00	15.00
Knee Joint	50.00	35.00	15.00
Elbow Joint	50.00	35.00	15.00
Wrist Joint	40.00	25.00	15.00

SPECIFIC INJURIES			
	A Flat Rate First Aid Operation and treatment for three weeks	B Operated only	Total Limit Full subsequent treatment for three weeks Additional to Column B only
FRACTURES—			
Upper arm	40.00	20.00	20.00
Forearm, one bone (shaft)	20.00	10.00	10.00
Forearm, both bones	35.00	25.00	10.00
Forearm, Colles'	25.00	15.00	10.00
Femur	50.00	25.00	25.00
Lower leg, one bone	35.00	20.00	15.00
Lower leg, both bones	40.00	25.00	15.00
Jaw	25.00	15.00	10.00
Ribs, one or more	10.00	5.00	5.00
Patella	40.00	20.00	20.00
Pubic bone	20.00	5.00	15.00
Acetabulum	50.00	20.00	30.00
Metatarsal or metacarpal	5.00	2.00	3.00
Fingers, one or more	10.00	5.00	5.00
Toes, one or more	10.00	5.00	5.00
Coccyx	15.00	5.00	10.00
Sacrum	15.00	5.00	10.00
Sternum	10.00	5.00	5.00
Spine	75.00	50.00	25.00
Lacrymal bone	10.00	5.00	5.00
Malar bone	10.00	5.00	5.00
Scapula	20.00	10.00	10.00
Clavicle	20.00	10.00	10.00
Nasal bone	10.00	5.00	5.00
Compound fracture 25 per cent. extra.			
Operation for wiring of bones or plating 50 per cent. extra.			
DISLOCATIONS—			
Shoulder	20.00	10.00	10.00
Elbow	15.00	10.00	5.00
Wrist	15.00	10.00	5.00
Hip	25.00	15.00	10.00
Knee	20.00	10.00	10.00
Patella	15.00	10.00	5.00
Ankle	20.00	10.00	10.00
Clavicle	15.00	10.00	5.00
Fingers, one or more	3.50	1.50	2.00
Toes, one or more	5.00	2.00	3.00
Jaw	10.00	5.00	5.00
Ribs, one or more	5.00	3.00	2.00
Spine	50.00	25.00	25.00
Sternum	5.00	3.00	2.00
Coccyx	10.00	5.00	5.00
Metacarpal, one or more	5.00	3.00	2.00
Metatarsal, one or more	10.00	5.00	5.00
Carpal, one or more	5.00	3.00	2.00
Tarsal, one or more	10.00	5.00	5.00
Scapula	15.00	5.00	10.00
Pelvis	10.00	5.00	5.00
SPECIAL AND MISCELLANEOUS OPERATIONS—			
Trephining of skull	75.00	50.00	25.00
Laparotomy for traumatic peritonitis	75.00	50.00	25.00
Fixation or suturing of kidney	75.00	50.00	25.00
Laparotomy for rupture or wound of bladder	60.00	50.00	10.00
Laparotomy for rupture or wound of liver	75.00	50.00	25.00
Laparotomy for rupture or wound of spleen	75.00	50.00	25.00
Laparotomy for rupture or wound of stomach	75.00	50.00	25.00
Laparotomy for circumscribed aneurism	75.00	50.00	25.00
Trephining bone abscess	25.00	15.00	10.00
Caries or necrosis, removal of	25.00	15.00	10.00
Tracheotomy	40.00	25.00	15.00
Intubation	15.00	10.00	5.00
Rupture of abdominal wall	40.00	30.00	15.00
Nerve, section or suturing of	10.00	5.00	5.00
Injection of antitoxin for tetanus or hydrophobia, each treatment \$ 5.00.			
Total not to exceed	25.00		

SPECIFIC INJURIES

A	B	C
Flat Rate First Aid Operation and treatment for three weeks	Operation only	Total Limit Full subsequent treatment for three weeks Additional to Column B only

SPECIAL AND MISCELLANEOUS OPERATIONS—Cont.

Anthrax-cauterization or excision	25.00	10.00	15.00
Ligating important arteries (separate operation)	20.00	15.00	5.00
Ligating small arteries (separate operation)	8.00	5.00	3.00
Hernia-reduction by taxis and applying truss (subsequent treatment, none)	5.00		
Herniotomy	50.00	40.00	10.00
Enucleation of eyeball	40.00	25.00	15.00
Laminectomy (special operation)	75.00	50.00	25.00
Paracentesis, thoracicus or pericordi (special operation)	15.00	10.00	5.00
Rupture of tendon, large	10.00	5.00	5.00
Rupture of tendon, small	5.00	2.50	2.50
Abscess, incision	4.00	2.00	2.00
Minor operations, repair of small wounds including subsequent dress	5.00	2.00	3.00
Repair of large wounds including suturing and dressing	10.00	5.00	5.00
Introducing catheter	2.00 to 5.00		
Removal of ordinary foreign body conjunctiva at office	1.00		
Removal of foreign body from cornea	1.50		
Subsequent treatment at office	1.00		

SPRAINS—

Shoulder	5.00	2.00	3.00
Elbow	5.00	2.00	3.00
Wrist	5.00	2.00	3.00
Hip	5.00	2.00	3.00
Knee	5.00	2.00	3.00
Ankle	5.00	2.00	3.00
All other joints	3.00	1.00	2.00

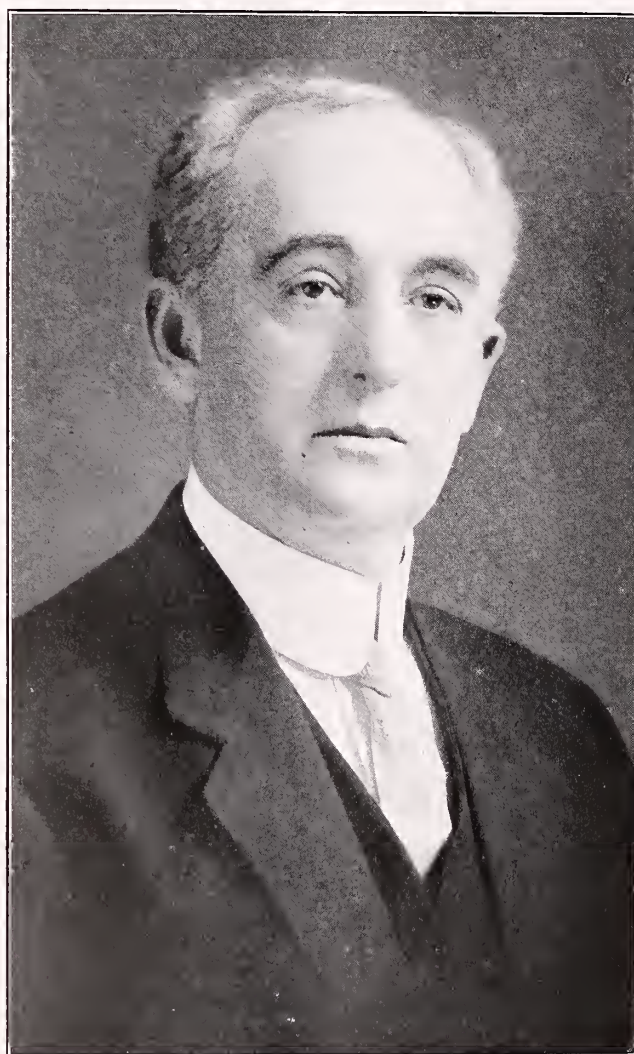
MISCELLANEOUS ITEMS:

Assisting at operation, major	10.00 to 20.00
Assisting at operation, minor	2.00 to 5.00
Examination in lunacy, including written report and one day's attendance in court or before commission	50.00
Subsequent court at commission attendance, for day	25.00
Urinalysis, when specially requested	2.00
Complete physical examination and report of other than attending physician \$5 plus laboratory fee.	
Autopsy, complete with written report	50.00
Autopsy, attending but not performing	10.00
Microscopical and chemical analysis of organs	25.00 extra
Testimony in court or before commission as to simple fact of injury	10 00
Testimony at coroner's inquest	10 00
Expert testimony, per day	15.00 to 30.00
X-Ray picture, including plate	5.00 to 10.00
General anesthetic, administration of	5.00 to 10.00

First Aid	Subsequent Treatment, Office
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ORDINARY ITEMS—

Ordinary day visit at house, mile limit from office, including antiseptic dressing when necessary	2.00	1.00
Ordinary day visit at hospital, including antiseptic dressing when necessary	1.50	1.00
Visit including antiseptic dressing and necessary operative procedures in ordinary cases of incisions, punctures, lacerations or contusions	3.00	1.00
Night visit, 9 p. m. to 7 a. m., add to day visit	1.50	
First attention at office, including operative procedure and dressing of ordinary wounds	1.50	1.00
Ordinary office treatment, including antiseptic dressing when necessary	1.00	1.00
Formal detailed report by attending physician at special request of insurance company	1.00 to 1.50	
Mileage beyond one mile limit, per mile one way .....	.50 to 1.00	



REUBEN PETERSON

PRESIDENT

1914 - 1915

COUNTY SECRETARIES.

In the official program you will notice that the Seventh Annual Meeting of the County Secretaries Association will be held at 5 p. m. on August 31 in the Peninsular Club. The Association will be the guests of the Council at dinner at 6:00 p. m.

You, by virtue of your office as county secretary, are a member of this Association. You are not only invited but expected to attend. Attendance at this meeting is one of the duties of your office and a duty you owe to the members of your local society.

In the past it has been customary to devote the afternoon to the discussion of the problems that confront a County Secretary. They have been exceedingly helpful meetings and those present have received numerous suggestions as to how best perform their official duties as well as how to arouse interest in the meetings of their respective societies.

This year it is proposed to hold a short business session and then adjourn to the dining room for a "Round Table Discussion" during the dinner. President C. B. Fulkerson and Secretary J. A. Wessinger have arranged an interesting series of questions that will be presented informally and the ensuing discussion will assuredly be interest awakening and instructive.

It remains with you, Mr. Secretary, to cause this meeting to result in the greatest amount of good. Your presence is very essential. You must permit nothing to prevent your attendance. Will you not at once write Dr. J. A. Wessinger of Ann Arbor and tell him you will be there?

If you have the interest of the state and your local society at heart your chair will not be vacant. Come and meet your fellow secretaries and discuss with them the problems that confront all of us. Returning home you will be able to better enact the part expected from you by your county society.

FIFTIETH ANNIVERSARY.

OUR PAST; OUR FUTURE.

The Annual Meeting in Grand Rapids this year marks the fiftieth year of organized medicine in Michigan. It is the Society's golden celebration. It closes an epoch and is the commencement of a new era in the history of the profession in Michigan.

The chapters that have been written by those

who actively participated in the work of the years that have elapsed are resplendent with activities which we may proudly look back upon. They record a series of professional progress, honorable performance of duty and a "meeting-up" to a standard consistent with our dignity. Our Society has well attained its purposes.

To review the past in detail is impossible. To point out certain beacon lights is beyond our capability. President Peterson, in his presidential address, proposes to cover, along certain lines, the achievements of the past fifty years. We have contented ourselves by asking some of the older members to submit their reminiscences for publication. They are here imparted as are also some thoughts from other members as to what the future may hold in store for us.

Fifty years in the life of an individual compasses the span of his intelligent activities, but fifty years in the life of the Michigan State Medical Society has but brought it to the point where it can view the vast fields of labor which it should occupy, and has rendered it conscious of the power and ability to so occupy them. The life history of all medical societies seems to pursue somewhat of a similar course. First we have the organization born of the enthusiasm and hope of a few energetic souls; then the winds of adversity appear and the frail bark is driven hither and thither among the rocks and shoals of malicious criticisms, unbrotherly acts, open jealousies, and political intrigues until, escaping these, she at last emerges into the calmer waters created by the wiser councils of a reorganized medical profession.

The life history of the Michigan State Medical is no exception as one may judge by reading the records transcribed in our *Medical Journal* of last year by Dr. A. F. Jennings. I have been told that had it not been for the devotion of the medical men of Ann Arbor and Detroit, with very little help from the rest of the state, the organized society would have gone to pieces. Today this State Society governs the consciences and receives the homage of nearly every eligible physician in the state.

Who were those wheel horses of the early days? I count myself fortunate indeed to have had the acquaintance and friendship of some of them. May I mention Sager, Palmer, Ford, Wells, of Ann Arbor; Pitcher, Farrand, Noyes, Jenks, Heaton, of Detroit; Foster, of Kalamazoo; Camp and Griswold, of Grand Rapids;

Northrop, of Marquette and Fuller, of Houghton. Certainly a goodly array of sainted names!

The first named, Dr. Abram Sager, was our family physician, and many was the time I rang his night bell to summon him in haste. He was our constant attendant for many years in sickness and in death. And the recollection of his kindly face bending over me when as a youth I was desperately ill with typhoid fever remains with me still, as do also several scars in my right iliac region made by the vigorous counter-irritation. Let me relate a little anecdote. My most vivid recollection—or was it only hearsay—of that illness was the great desire for water. In delirium or out of it, water, water was my cry. Not only a cup, but a dipper full, a pail full, a barrel full! There was not enough water in all the wells and rivers for my need! When somewhat better, my sister found in a child's paper this bit of doggerel which pleased me mightily and we had Dr. Sager read it. It ran:

"More water, more water!" cried Michael McWhorter,
 "I'm as dry as a withered old stump;
 And I verily think, I this moment could drink
 To the bottom of well or of pump."

The doctor laughed, and I got the water. Many and many a time when my typhoids would ask me for water have I repeated this jingle to their infinite amusement. But alas! for them the point was gone—there was no application on't. I have always given my typhoids all the water they wanted!

THEO. A. FELCH.

My thoughts often hark back to the first meeting which I attended of the Michigan State Medical Society. It was held in Lansing, in the Capitol Building, in the late seventies, and was presided over by Dr. Foster Pratt, of Kalamazoo, a man of great learning, of strong convictions, and a master of English. The subject of his Presidential address was the Newcomer-Van Deusen case which had not long before been fought out in the courts with great skill and not a little acerbity on both sides. Mrs. Newcomer had sued Dr. Van Deusen for illegal detention and the case became a Michigan *cause celebre* in medical jurisprudence, the like of it not having occurred theretofore. At that time there was no general statute governing the admission of patients who came to the then called asylums of Michigan on orders from the superintendents of the poor or other more or less informal documents. Dr. Van Deusen had been subjected to much unmerited criticism and

his reputation had suffered not a little. Dr. Foster Pratt in his ringing address made it perfectly clear how unjust had been the allegations and showed conclusively the good intentions and high aim of the officers in charge of public institutions for the insane in general and of the Michigan Asylum at Kalamazoo in particular. I say he showed it conclusively; he did at least to my mind. As a boy, I had never been in contact with the insane and had known no patient thus afflicted except a neighbor of whose conduct and care at Kalamazoo the wildest neighborhood yarns had been in existence. I did not look upon asylums as medical institutions but as places for custodial care of a difficult class of citizens. As a medical student, my vision had not been broadened on the subject. There had been no chair of phychiatry, no teachings of this branch, no clinics, nothing to acquaint the soon-to-be medical practitioner with an important branch of his profession. Dr. Pratt's masterly address clarified my thinking quite completely and when a few months afterward, Dr. Hurd offered me a position as assistant physician to the Eastern Michigan Asylum at Pontiac, I accepted it gladly and entered upon the work with quite the same feeling that would have moved me had the invitation come from a general hospital. It all goes to show that much may be made of a presidential address if its author selects a timely topic and one of large interest. Among other subjects those relating to medical jurisprudence, to the discussion of rules of evidence and decisions in malpractice cases—all from the physician's viewpoint—are especially important.

The Michigan State Medical Society in those days might be likened to a delightful old beer garden. There were rows, riots, and rumpuses and then some. At the University of Michigan, homeopathic students received instruction in surgery, in ophthalmology, in obstetrics and certain other branches from the teaching staff of the College of Medicine and Surgery. This latter staff was the object of unintermitting and sanguinary bombardment by a faction of the State Medical Society of which the late Dr. William Brodie of Detroit, a rare and delightful character who once remarked to me, "I don't care a —— whether I fight with the majority or the minority so long as I fight," was acknowledged field marshal. The emplacement of their siege guns was good, their fire effective in so far as laceration of feelings and incitement to battle were concerned. They did not succeed, however, in dislodging the enemy from

the trenches which were successfully defended by the Ann Arbor contingent led by Drs. Maclean and Frothingham. These latter never accepted a state of siege as final but made daring and brilliant sorties from the works, somewhat to the damage of the serried ranks of the attacking force. There were neutrals also who wondered what it was all about and who ducked active participation in the hostilities. That it was much ado about nothing is now altogether obvious and the present generation of medical students would find it difficult to picture the state of mind of the leaders in this engagement who moved to and fro upon the earth, armed *cap-a-pie*, growling, uncompromising, belligerent. It was for a "principle" they were contending. How easy it was to find a "principle" as the ground of contention! How unimportant this fray appears in the light of the present day understanding. It is interesting to add that the active participants in this warfare lived to bury their animosities and were all fast friends before the close of their distinguished careers.

C. B. BURR.

THE REORGANIZATION OF THE MICHIGAN STATE
MEDICAL SOCIETY IN 1902.

In 1901 a radical change was made in the form of organization of the American Medical Association by which the legislative work of that body was reposed in a House of Delegates, to be composed of delegates from affiliated state societies in number proportionate to the membership of such state organizations, and a recommendation was made that the several state societies should adopt this form of organization for themselves. Accordingly, in 1901, the new President of the Michigan Society was instructed to investigate the new form of organization and present recommendations at the 1902 meeting. Fortunately the Society had for its President one who was eminently fitted for this special work—the late Leartus Connor. The heart and soul of this unselfish great Michigan physician were absorbed in the work of perfecting an organization of his fellows that would in every sense of the word be representative of the entire profession of the state. He reasoned that the physician, no matter how gifted he might be, no matter how honorable in his dealings with his fellows and the public, could not hope to occupy in the public esteem a very much higher position than the average attained by the profession of the entire state;

that the public regard for the educated and honorable men would depend much upon the fact that the average status of the whole profession was high and honorable.

Previous to 1902 it had been made difficult for ordinary men to become members of the State Society and also of many local organizations. Strict investigations were made of each candidate's fitness to become a member and it is feared that local jealousies often operated to keep worthy men out. The consequence was that the membership of the State Society was small and it had very little influence upon public questions.

President Connor appointed a special committee consisting of Drs. A. E. Bulson, George Dock and Chas. T. McClintock, to study the subject and make recommendations at the 1902 meeting. The committee worked faithfully in connection with President Connor and their report was adopted in June, 1902 by a practically unanimous vote, and the Chairman of the committee was elected the new President of the Society.

In the subsequent organization of the Council which was charged with the duty of organizing the County Societies, Dr. Connor was elected Chairman, Dr. Andrew P. Biddle was the Secretary of the Society and the first editor of *The Journal*, the first number of which appeared in Sept. 1902. Dr. W. H. Haughey was the first Secretary of the Council and to these men, Drs. Bulson, Connor, Biddle and Haughey, are we indebted for much unselfish labor. Each of them held himself open to call at any time to visit any place in the state when the local Councilor needed assistance.

Personally I have many pleasant recollections concerning that pioneer organization work in 1902 and '03, but most of all I treasure the memories incident to my association in that work with the four gentlemen I have named above. I treasure especially the memory of the one who has passed away. To him I feel indebted for whatever broad and liberal views I may have been able to acquire concerning the relations of medical men with one another.

The results of the work begun in 1902 are recorded in the volumes of *The Journal*. Started by the first Council with much fear and trembling, it has steadily progressed to the present time. Each year it is made a little better, keeping step with the ever improving status of the profession of the Wolverine state. Thus shall it continue to do in the future, being ever

a more or less faithful mirror of the profession which it entertains and represents.

W. T. DODGE.

Previous to the time of the vigorous propaganda by Editor Simmons and his associates for the systematic organization of our profession, there was no medical society worthy of the name in the Upper Peninsula. A few widely scattered members of the state and still fewer of the National Association.

This was not alone due to a lack of desire, but it meant a journey of not less than one thousand miles, with the attendant loss of time and money, which many of us could ill afford. I well remember attending several meetings of the State Society when I was the only representative of the Upper Peninsula, not representing any County Society, for none was in existence at that time. We were practically isolated from one another, only meeting on rare occasions in consultations or rendering assistance. Our only source of keeping abreast of the advancement of medical progress was in the reading of books and journals.

We had none of the incentives to do better work which one gets by meeting with men engaged in his own line of work, in taking part in the discussion of papers, and above all, the enjoyment of good fellowship which a good Medical Society engenders.

This condition of isolation has all disappeared and we now have six live working County Societies, with a membership of at least 60 per cent. of all regular practicing physicians; also an Upper Peninsula Society, meeting once a year. To attend these meetings demands from some of the members, sacrifice of time and much effort, but it is freely and cheerfully given.

This systematic organization has not only brought into fellowship, but also into existence a firm determination of every member to do all in his power to advance the cause of Scientific Medicine and Public Health.

Instead of one or two attending the State Association, we now have many times that number and each one so attending makes a firm resolve not to miss any future meeting if at all possible to attend.

I am firmly convinced from the progress made by this systematic propaganda, carried on by our efficient County, State and National officers, and much individual effort, the time is not far distant when practically all pro-

gressive physicians will be members of one great band engaged in "God's noblest calling."

A. I. LAWBAUGH.

THE MEDICAL SOCIETY OF TOMORROW.

We celebrate this year the 50th anniversary of the foundation of the Michigan State Medical Society. Fifty years ago transportation of all kinds was very difficult. For our forefathers even to meet with one another meant a sacrifice of time and labor hardly now appreciable. The few who gathered together needed all their energy to be devoted to the welfare of the profession. Gradually with time and increasing facilities for meeting organization has been perfected; the County, the State and the National Association today are the centers of thought and action of the profession; but now with an enlarging and more exacting population the expectations of civilization of the profession have enormously increased, and the medical society of tomorrow must be ready to meet these expectations. Its members must be highly educated and highly trained that each in his community may be a leader ready to sacrifice time, means and health to enlighten the people in every thing which pertains to the preservation of the public health; courageous in maintaining our highest ideals and fearless in the protection of public morals.

The field is vast, covering from the prenatal period to beyond the burial. Child welfare in its broadest educational, physical and moral sense; the care of the defective; the recognition that the criminal and the inebriate are but types of diseased mental and physical conditions, to be treated accordingly; the protection of the public health in city and rural districts by full time, well educated, and especially trained sanitary engineers and physicians; the education of the public in the prevention of disease and the individual in the care of himself; the teaching that a moral life, free from the use of stimulants and of excessives, is the one most conducive to the happiness and well being of self and of the race; are but instances of what may be done.

And, as we meet these issues fairly, so will our profession be held in increasing esteem and gain in usefulness to mankind, the highest fulfillment of a life of action and trust. *Noblesse oblige.*

ANDREW P. BIDDLE.

On August 10, 1819, the Medical Society of the Territory of Michigan was organized to

regulate the practice of medicine. This was the beginning of Scientific Medicine in Michigan. April 14, 1849, the Wayne County Medical Society was organized, and other societies came and gradually dissolved, until in 1865 the Michigan State Medical Society was organized, and Dr. Stockwell of Port Huron was made President. Then came Dr. Jerome, Dr. DeCamp, and our own Dr. Richard Inglis of Detroit, who was President in 1869. Then came Drs. H. O. Hitchcock, and J. W. Jenks. Dr. Jenks acquiring the national reputation as a gynecologist, Foster Pratt, a great orator, and the real father of our present immigration laws, requiring the exclusion of diseased persons. Drs. N. D. Stebbins, who was a great botanist, and Zina Pitcher, who is always quoted in books of obstetrics, as the originator of the hot water injections in postpartum hemorrhage.

I joined the Society shortly after graduating, and we had great old times. Very good scientific work was done, but there were factions and oratories. Michigan was the dumping place for all the quacks of the country, as we had no laws, and for years we worked with the Legislature, but the so called Homeopaths, Eclectics, and others always opposed us, but finally we got a law passed requiring all physicians to register with the County Clerk, and to state where they graduated, and if not. Thus there would be a record so people could find out whether they had a regular graduated physician, no matter what a meagerly school he might come from. We had great fights about creating a Homeopathic Medical Department at Ann Arbor, but it was accomplished, and I think was really a good thing to cause the downfall of sectarial medicine, for as soon as students learned anatomy, physiology, chemistry, etc., they soon found there is no exclusive practice of medicine. The great work of the State Society has been its constant endeavor to elevate the practice of medicine in this state.

Finally, however, we came together and with the late Drs. E. L. Shurly, H. O. Walker, and myself, and some others from different parts of the state, and agreed with the Homeopaths, Eclectics, etc., to have a State Board created, as it is now constituted. The object being to require that all men who wanted to practice medicine, to show that they knew something about it, and were competent, not ask them what therapeutics they would employ. We treated them all square. I remember the long session we had with the Legislature until twelve o'clock one night, and then took the two o'clock

train from Lansing to get home. But the bill passed, and has since then been improved, and we now have as rigid a medical act as there is in the country.

The State Medical Society has been in the front ranks to elevate medical education, to stamp out tuberculosis, and teach public hygiene. With the highest grade of medical men, the fightings, squabbings, and politics have been relegated to the background, and today the State Medical Society is simply a scientific body to help each other in their noble occupation.

J. H. CARSTENS.

Few of us will be here to see the changes in 1965 and those who do survive will probably have reached Shakespeare's seventh age of man—"sans teeth, sans hair, sans everything." But the evolution of man is found to apply to all of his accomplishments and one may take a reasonable certain peep into the future if he observes the tendencies of the age in which he lives. Following this method, we might predict a strongly prophylactic or educational movement, gathering strength as it becomes sure of itself and sure of the support of the people, until the pronouncements of the official representatives of medicine are regarded with fully as much respect and veneration as are those of our cattle experts at the present time. This may seem to many a bold statement, but if it is once realized a number of results of the utmost importance to mankind will immediately follow. The sterilization or segregation of the physically unfit; the stamping out of idiocy and degeneracy, and the practical elimination of venereal disease will then be as easily accomplished as was the suppression of the foot and mouth disease among cattle in 1914. What we need is true medical education—not merely a few talks to mothers on how to handle a teething baby, but how to prohibit the propaganda of her species to the unfit human animal. And this will never be realized until governmental medical authority backed by a majority of the people with power like that of a Colonel Goethals performs its stern, pitiless yet merciful mission. And this, it seems to me, is possible in fifty years from now.

FRANK C. KINSEY.

When medical men first began to lay a foundation for unanimity, friendship and culture, they organized themselves into County Medical Societies. The larger organization of fifty years

ago, our Michigan State Medical Society, was the natural sequence of a grouping of the smaller ones, thus the County Medical Society became the unit of the State Association. In some instances the number of medical men in some counties were too small to form a good working organization. Two or more counties were grouped together to improve their organization, to arouse interest and dispel the lethargy into which the profession had lapsed. This action has been vindicated in the majority of instances where this plan has been adopted, by increase of membership and activity of the society by better programs, by increase of general average attendance and by developing a friendlier spirit in the medical profession.

Few have seemed to recognize this phase of medical organization. Because of the complexity and rapid progress of medical work and increase of the standard of requirements of medical men the demand for efficient organization and society work is very great. In fact the organization must be successful in obtaining first class talent for the programs or the attendance and the membership immediately drop to an insignificant number. First class programs made up of imported talent will rejuvenate any dead society and uncover talent in the profession long believed extinct. When the medical society is properly developed one is greatly surprised at the amount of local material at its disposal.

The success of our organization will be far greater if the size of our units could be extended so as to include three or more counties; more of the eligible men in the state will give their support, our legislative power will be enhanced, the community will be served more efficiently and in the medical fraternity a friendlier spirit will prevail.

This celebration of the Fiftieth Anniversary of our State Organization should stimulate us to greater and more concerted efforts to awaken in the individual his responsibility not only to his patients but to medicine. We should meet the demands of the century and make our organization so indispensable to every practicing physician that he cannot live without it.

C. B. FULKERSON.

I have not learned the art of passing into a trance and viewing the future. However, the history of the past fifty years of the Michigan State Medical Society is so varied and full of interest as to furnish inspirations for making the future many fold times more eventful than

has been the past. The mistakes which have been made must be avoided. To err is human, but it is unpardonable to repeat a blunder. For this reason the events during the fifty years existence of this Society are important and should be of great value in years to come. The committed errors must be omitted and the good increased many fold.

Compared with advantages we enjoy today, those of our predecessors were very meagre. The opportunities for thoroughness were so limited, yet the years have not been uneventful—quite the reverse. If the next half century is to be relatively as important, wonderful dreams and ambitions must be realized.

Today the young practitioner enters the field far better equipped than did his predecessor. These extra talents must be accounted for in direct ratio to their attainments. The public justly demands more efficiency and as the State Society figures so forcibly in furthering this factor, it is not difficult to fathom the part this body must play during the years to come.

Co-operating as it does with our greater organization, it serves as a mediator between our local societies and the larger body. This necessitates each individual County Society to do its part in the way of keeping its members in the front ranks. The stimulus for good work is effective only to such a degree as the individual members are simply "natural practitioners," or those who have ambition to keep abreast with the eventful period in which we live. Were we to depend upon ourselves for this incentive, there would be a large army falling by the wayside of development.

The results of the labors of the State and National Councils of Education have already been noted, but limitations must soon be met with, otherwise there may be a hidden danger of finding the next decade devoid of the general practitioners and various specialists supplanted in their stead. While this may be ideal, yet it is questionable as to the willingness of the public to accept this change. Time alone will tell. If the change must be made, it should be gradual.

The State Society plays an important role in moulding individual careers. Through its medium, *The Journal*, the more important transactions are related and tabulated. In this connection it is justifiable to commend our excellent *Journal*. If it continues to make rapid strides forward as during the past two years, the pride we now hold and the benefits derived will be increased many fold. We must not expect the

Editor to shoulder the whole burden; if every member would contribute his mite, the articles would not only become more varied but a greater personal interest would predominate throughout.

The State Society Protective Department has wielded a healthy influence. The fraternal spirit fostered has been instrumental in preventing many prosecutions, formerly so common. Surely it is unworthy of a physician to publicly find fault with his fellow practitioner. We can all recall instances where a man has been haled into court not so much for reason of his inability and faulty practice, but solely because a jealous colleague saw an opportunity to besmirch his good name. In order that the State and County Societies may prosper during coming years all petty jealousy between local practitioners must be relegated to the side lines. Nothing but harm can come from these strifes. The public looks upon them as foolish and puerile. The more we co-operate, both in practice as well as outside, the better will be the results attained. If this energy were spent in common protest against fraudulent cults, much good would be accomplished and more beneficial legislation would be formulated.

The movement on foot to establish a circulating medical library for the use of the members is commendable and if realized will bear choice fruit. We have access to the A.M.A. periodicals and other literature, but the body to be supplied is too great for efficiency. If the State Society can grant similar privileges, the doctors of Michigan will be able to further many ideas now impossible because of the necessarily large personal expense.

Finally, the profession, especially the members in smaller localities, are in need of more extensive laboratory facilities than are now offered by the State Board of Health Laboratory. If the State Society could be instrumental in persuading the State Laboratory to include the Wassermann and other tests in its list, much would be accomplished, as today many cases must be satisfied with a clinical diagnosis.

Greater activities are necessary upon the part of all in order that the progress of the Michigan State Society may be forward. The individual and common gain will be ample reward.

RUDOLPH J. E. ODEN.

E-Lep-Tinc.—E-Lep-Tine is an "epilepsy cure." According to the Indiana State Board of Health, it contained sodium and potassium bromides 16 per cent., alcohol and ammonium valerate (*Jour. A.M.A.*, June 12, 1915, p. 2006).

Editorial Comments

In this issue there will be found the program and announcements for the Fiftieth Annual Meeting to be held in Grand Rapids, August 31, September 1st and 2nd. He would indeed be an unfortunate member were he compelled to forego participating in and profiting by this convocation. Every detail of the entire program is prophetic of a most profitable meeting. The Grand Rapids profession cordially urge you to be their guests throughout the entire session. This should be our truly banner meeting.

Essayists are reminded that their paper must be handed to the Section Secretary as soon as read. Please have your paper typewritten, double spaced, with title, author's name and section before which it was read. Avoid abbreviations.

The ladies are most cordially invited. Grand Rapids affords them numerous opportunities for shopping and entertainment.

There will be plenty of the local profession on duty at all hours to impart any desired information. Don't hesitate to ask them. They will be distinguishable by special badges and their services are at your disposal.

The points of interest in Grand Rapids are described elsewhere in this issue.

To recapitulate, they are:

1. Furniture exhibits and factories.
2. Y. M. C. A. building, just completed at a cost of \$300,000.
3. Ryerson Public Library.
4. New Pantlind Hotel.
5. District Nursing Association building.
6. John Ball Park and drive.
7. Water Filtration Plant.
8. Reeds Lake and Ramona Park. Summer vaudeville and amusements.
9. Michigan Soldiers Home.
10. Boulevard Drive.
11. Masonic Temple, \$350,000, process of erection.
12. Butterworth, U. B. A. and St. Mary's hospitals.
13. Kent Country Club, Plainfield Auto Club, Highlands Country Club, Peninsular Club and Owashanong Club.
14. Retail shopping places.
15. Ottawa Beach and Macatawa Park, Summer Resorts on Lake Michigan. One hour's ride on Holland Interurban.

RAILROADS:

1. Pere Marquette.
2. Grand Rapids & Indiana.
3. Michigan Central.
4. Grand Trunk.
5. Lake Shore.
6. Holland and Chicago Interurban.
7. Grand Haven and Muskegon Interurban.
8. Grand Rapids and Kalamazoo Interurban.

You must not permit yourself to fail to attend this meeting. Carefully peruse the program and you will readily perceive why.

Post a notice in your office that you are going to be in Grand Rapids Aug. 31, Sept. 1 and 2.

Don't cause your community to forego the benefits of Tuberculosis Day. A little effort will be required but the committee deserves this co-operation.

If there is any need for some of our standing committees there should at least be some activity amongst them. We surely hope that they will abandon President Wilson's slogan of "Watchful Waiting."

Your consideration of our advertisers and the determining to patronize them is respectfully solicited.

Grand Rapids, August 31, September 1 and 2 are dates we want you to bear in mind.

"One reason we are not always successful is that we sidestep the opportunity of a vacation or outing and shake hands with the temptation of dealing out advice and medicines from a shelf worn and dusty attic of information."

Intravenous Radium Solution.—Standard Radium Solution for Intravenous Use (Radium Chemical Co., Pittsburgh), is sold in ampules, each containing radium bromide equivalent to 0.05 mgm. radium element and 0.0002 Gm. or less of barium bromide dissolved in 2 Cc. sterile normal salt solution. While the Council on Pharmacy and Chemistry confirmed the claimed composition of this solution so far as concerns the radium content, it refused recognition to the preparation because there is no clear evidence that intravenous injection has any advantage over the other methods of administering radium. The Council holds that on the basis of our present knowledge radium should be used intravenously only by those in a position to study its effects carefully and in an institution equipped with the necessary facilities for such study (*Jour. A.M.A.*, June 26, 1915, p. 213).

Deaths

L. G. Rhodes of South Haven was instantly killed when his automobile was overturned in a ditch while he was hurrying to make a call.

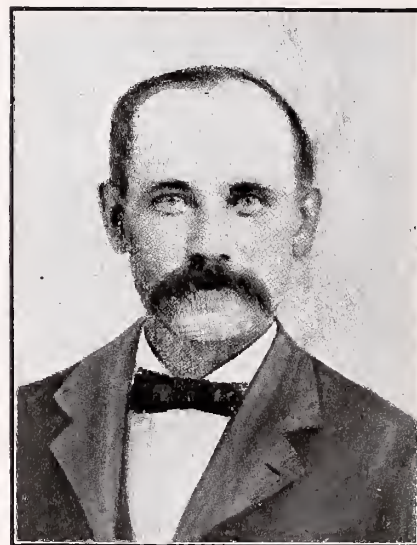
Dr. Rhodes was one of the leading physicians in the southern part of the State and was a former president of the Kalamazoo Academy of Medicine.

DR. L. G. RHODES, SOUTH HAVEN, MICH.

Five states were successively the residence of Dr. Leslie G. Rhodes, and in the four in which he lived after reaching manhood, his acquaintance and influence extended considerably beyond the immediate community of his residence and professional work.

Dr. Rhodes was born May 5, 1852 at East Almond, N. Y. He was raised on a farm and attended the district school. In 1867, he moved with his parents to Iowa. He attended the Academy of Kossuth, Iowa and later entered Iowa Wesleyan University at Mount Pleasant from which he graduated in 1877.

He taught school for a time and then entered the medical department of Iowa State University



Dr. L. G. Rhodes.

from which he graduated in 1881. He entered upon the practice of medicine and surgery at Alton, Kansas, where he remained ten years. In 1891 he removed to Lincoln, Nebraska, and continued the practice of his profession there until 1896 when he came to South Haven, Mich.

He was a member of the Kansas State Medical Society and the Missouri Valley Medical Association and after coming to South Haven joined the Michigan State Medical Society and the Kalamazoo Academy of Medicine, serving the last-named body as President a few years ago.

In 1890, he was appointed United States Pension Examiner and was chosen President of the board. He was also local surgeon at Alton for

the Missouri Pacific Railroad and at Lincoln he served as a member of the medical staff of St. Elizabeth Hospital, and was also on the surgical staff of Tabitha Hospital.

On coming to South Haven, Dr. Rhodes entered into partnership with Dr. C. D. Carnes, and this association continued for a year and a half. How close were the ties formed during that partnership and in the years that followed it, was evidenced by the request of Dr. Rhodes expressed to his wife some month ago that should he be taken away before Dr. Carnes he wanted the latter to speak at his funeral. Dr. Carnes for his part, found it very sad but withal a satisfying duty to comply with this request and his tribute at the funeral figured largely in making that service so solemn and impressive.

Dr. Rhodes was so busy with his practice that it is difficult to realize that he took so active a part in so many local affairs. He was ready to help any movement that would help others and his energy, persistence and executive ability made him sought as a leader in many of these movements.

Dr. Carnes spoke of the important part taken by Dr. Rhodes in getting the South Haven hospital established. He was one of the first persons, and we believe the first to urge the establishing of a hospital and as Dr. Carnes said, he kept up the agitation, quietly but persistently until it resulted in the starting of the first hospital on Erie street. Then he began work for larger and more suitable and permanent quarters and the present structure at Center and Green streets is a monument to his far-sighted vision of the needs of the community and to his ability and to his persistence and wisdom as he worked with those who made his dream a reality.

It is, perhaps not out of place to recall here his work for the hospital, his interest in the Tag Days and excursions and other efforts which helped to maintain it to remind those who knew him and respected and loved him that while he is gone the institution to which he devoted so much time and thought and energy remains with us, prepared to serve the community and at the same time demanding and deserving continued efforts to maintain it at the standard that good medical and surgical method demand.

His splendid Christian character received fitting tribute at his funeral. He practiced and preached the principles of his faith and he did not spare himself in the services of the churches of that faith.

He was a trustee of the Congregational church and assistant superintendent and teacher in its Sunday School, and later held the same position in the Baptist church and Sunday School. He attended regularly the services so far as his practice permitted and when obliged to be absent his friends knew that he was carrying the gospel

of healing and good cheer and faith in Jesus Christ into some sick room.

He served as President of the Civic Improvement League and of the Lake View Cemetery Association, and gave to both organizations a large amount of unselfish and efficient service.

He was a member of the Board of Trade and interested in all its activities serving on its committees and lending his help to its work wherever opportunity offered.

Dr. and Mrs. Rhodes have been members of the Shakespeare Club since its organization.

Dr. Rhodes was a member of Star of the Lake Lodge F. & A. M.

Dr. and Mrs. Rhodes were married May 14, 1882 at Alton, Kansas; her name was Miss Minnie McHenry, and her parents Rev. and Mrs. F. G. McHenry lived at South Haven for a few years and are pleasantly remembered by many friends.

Besides the widow, Dr. Rhodes is survived by two sisters, Mrs. Alice VanNice of Dayton, Wash. and Miss Mary Rhodes, who lived with them at intervals since Dr. and Mrs. Rhodes came to South Haven. She was at Mediapolis, Iowa, their old home when his death occurred and she came to the funeral accompanied by Miss Rankin, a friend of the Rhodes family for many years.

State News Notes

UPPER PENINSULA MEDICAL SOCIETY SAULT STE. MARIE, AUG. 4-5.

Le Sault de Ste. Marie Club Rooms.

Wednesday Morning, 11:00 a. m.

1. Meeting called to order by Dr. E. H. Webster, President Chippewa County Medical Society.
2. Invocation.
Rev. Stephen Alling.
3. Introduction.
E. H. Webster, Sault Ste. Marie.
4. Address of Welcome.
Hon. Sherman L. Handy,
Mayor of Sault Ste. Marie.
5. President's Address.
Jas. G. Turner, Houghton.

(Adjournment for lunch.)

Wednesday Afternoon, 1:30 p. m.

1. Syphilis of the Liver Simulating Cirrhosis, with Report of Case.
A. I. Lawbaugh, Calumet.
2. Thirty Years of Obstetrics. A Summary of 3600 Cases.
Geo. G. Barnett, Ishpeming.
3. Goitre.
H. M. Joy, Calumet.

4. X-Ray Work.
Eugene Axtell, Marinette.
5. A Few Points of Hygiene of the Eyes.
H. J. Hornbogen, Marquette.
6. Anticipatory Drainage in Certain Cases of Appendicitis.
A. S. Kitchen, Escanaba.
7. Post Operative Management of Abdominal Cases.
W. K. West, Painesdale.

Wednesday Evening, 9:30 p. m.

Banquet at the rooms of the Le Sault de Ste. Marie Club.

Thursday Morning, Aug. 5, 9:30 a. m.

1. Business meeting and election of officers and selection of next place of meeting.
 2. Bronchoscopy and Esophagoscopy.
H. H. Cummings, Marquette.
 3. (Subject to be announced later).
S. H. Rutledge, Manistique.
 4. Some Chronic Conditions of the Lower Abdomen.
R. C. Winslow, Sault Ste. Marie.
 5. Demonstration of Fracture Splint.
Fred Townsend, Sault Ste. Marie.
 6. Some Phases of Insanity.
F. C. Bandy, Newberry.
- (Adjournment for lunch.)

Thursday Afternoon.

Automobile and boat rides to points of interest in and about the Soo.

Several distinguished men from outside the Upper Peninsula have signified their intention of being present and taking part in the discussion.

R. Bennie, Secretary.

Governor Ferris has appointed the following delegates to attend the third annual conference on tuberculosis to be held at Indianapolis, September 29, 30 and October 1, 1915:

J. H. Kellogg, Battle Creek; J. F. Hartz, Detroit; V. C. Vaughan, Jr., Detroit; Herbert M. Rich, Detroit; Collins H. Johnston, Grand Rapids; Ralph Apted, Grand Rapids; A. H. Rockwell, Kalamazoo; E. B. Pierce, Howell; L. W. Toles, Lansing; A. F. Fischer, Hancock; C. M. Williams, Alpena; Don D. Knapp, Flint; F. G. Novy, Ann Arbor; R. C. Main, Marquette; W. J. O'Reilly, Saginaw; John A. Kehoe, Bay City; C. G. Parnall, Jackson; Geo. L. LeFevre, Muskegon; A. M. Hume, Owosso; Edw. Hofma, Grand Haven; J. J. Mersen, Holland; Geo. Switzer, Ludington; Jas. A. King, Manistee; J. M. Wilhelm, Traverse City; D. G. Castell, Pontiac; W. J. Duc, Port Huron and R. L. Dixon, Wajamega.

The following appointments of Chief of Staff and Heads of Departments of Hackley Hospital,

Muskegon have been made by the Trustees, for the year beginning July 1, 1915:

Chief of Staff—Dr. John Vanderlaan.

Med. Dept. (Allopathy)—Dr. I. M. J. Hotvedt.

Med. Dept. (Homeopathy)—Dr. G. L. LeFevre.

Surgical Department—Dr. Frank W. Garber.

Obstetrical Depart.—Dr. George J. Hartman.

Gynecological Depart.—Dr. Lunette I. Powers.

Depart. of Pediatrics—Dr. Clarence J. Durham.

Eye and Ear Depart.—Dr. William P. Gamber.

Pathologist—Dr. Lucy N. Eames.

Roentgenologist—Dr. J. T. Cramer.

The following physicians have been elected members of the staff: Dr. C. J. Bloom, Dr. Burns R. Eastman.

Practically every physician in the State will recall the Gardiner & Baxter Company, which during the period of its existence was known as one of the best haberdashery and clothing houses in the country. The present "M. B. M." Company, which is carrying a regular advertisement in our publication was formed by three of the best known employes of the Gardiner & Baxter Company—Messrs. MacKenzie, Bostock and Monroe, and the good will and traditions of the old company have followed them to the present shop, 51 Monroe avenue, Grand Rapids.

The new general hospital has been opened at the Traverse City State Hospital and is now ready to receive patients. The organization provides that any physician in good standing in the State of Michigan has free and equal rights to the hospital. The law governing it provides, among other things, that the board of trustees may maintain within said institution a general hospital department for the reception and treatment of all emergency cases and others seeking medical and surgical relief other than regularly admitted insane patients of such institution.

Governor Ferris appointed the following delegates to attend the fourth annual convention of the alienists and neurologists of the United States at Chicago July 12 to 16: Dr. E. A. Christian, Pontiac; J. A. Munson, Traverse City; E. H. Campbell and E. J. Brady, Newberry; Geo. F. Inch, A. I. Noble and Herman Ostrander, Kalamazoo; Robt. H. Haskell, Ionia.

The annual meeting of the Michigan Anti-Tuberculosis Association will be held in Grand Rapids September 2-4. Those attending the Medical Association's convention are cordially invited to remain over for this important meeting.

Delta County's Good Health Week came to a close July 1. The afternoon and evening sessions have been most successful and undoubtedly much good will result from this effort to

instruct the public on the laws of health and the prevention of disease.

If there is a physician in Grand Rapids or in Michigan who has a microscope which is not in use, the loan of the instrument would be greatly appreciated by the Grand Rapids Anti-Tuberculosis Society.

Dr. Ralph Apted, Grand Rapids, who was discharged recently from Butterworth Hospital following a gall-bladder operation, has gone to the Augustana Hospital in Chicago for treatment. He will be under the care of Dr. Oschner.

The Kalamazoo State Hospital will in the future give a three-years course instead of two for nurses.

Students taking training at the State Hospital get their surgical experience in the local hospitals down town.

Dr. T. G. Yeomans of St. Joseph has purchased a residence there for the purpose of erecting a hospital, which will be St. Joseph's first hospital, and in a short time a \$10,000 corporation will be organized.

The Exhibit of Latent Syphilis and Gonorrhea made by the Pathological Department of the University under the direction of Dr. Warthin was awarded a gold medal at the Scientific Exhibit of the A.M.A. this year.

The Next Annual Meeting of the American Medical Association will be held in Detroit in 1916. We extend our congratulations to the Detroit profession in having been thus honored by our national organization.

Dr. M. S. Gibbs has purchased the Universalist church and will remodel the church into a private hospital, giving Marshall a long desired institution.

The marriage of Dr. Victor C. Vaughan, Jr., Detroit, and Miss Elsbeth Hosig of Duluth, Minn., took place June 28 at the home of the bride's parents.

Dr. Herbert M. Maynard and Miss Berd'e Sherwood were married July 7. They will reside at Tremayne's Corners, where Dr. Maynard succeeded Dr. J. D. Bradfield.

Surgeon-General Rupert Blue of Washington, D. C., was selected as President-Elect of the A.M.A. at the San Francisco meeting.

Dr. Frederick Shillito of Kalamazoo was elected president of the Northern Tri-State Medical Society at its annual meeting in Ann Arbor.

Annual Meeting, Grand Rapids, August 31, September 1-2.

Seldom has an annual program been more inviting or promising for a very profitable meeting.

Dr. A. J. Carlson has been appointed as Escanaba's first full-time health officer.

County Society News

ALPENA COUNTY

The regular meeting of the Alpena County Medical Society was held at the Alpena House, Friday, June 20th, Drs. McKnight and Gauvereau entertaining with a six o'clock dinner. Fourteen members were present.

The program of the evening consisted of two discussions. "The Doctor and His Money, and How to Invest it," was the third of a symposium; two of which, "How to Make it" and "How to Get it," had been held at a previous meeting. Dr. J. W. Small led in the discussion which was fruitful in confessions of poor business judgment on the part of those present in investing in oil wells, gold mines and plantations, without any return whatever for the investment. It was the general agreement that investment in life insurance or loans with good security was the safest and wisest investment of capital.

The other discussion was of Dr. Frank Walker's paper on "Mouth Infection," appearing in the June edition of the State Journal. D. A. Campbell, D.D.S., led the discussion of this most interesting and valuable paper.

It is our practice where the subject has not been selected ten days before the meeting by the one appointed to read a paper for the secretary to give him a subject from the current number of The Journal for discussion. This often saves the embarrassment of having a meeting and no paper to discuss.

In conformity with the plan to make a tubercular survey of the state, the Alpena County Medical Society agreed to assist by devoting one day in August to the examination of those presenting themselves to ascertain whether or not they were affected with tuberculosis. Resolutions were passed requesting the mayor and common council to designate the day by proclamation.

O. Bertram, Secretary.

EATON COUNTY

A special meeting was held June 24th at Eaton Rapids. The invited guests were Drs. James S. Brotherhood, Burton R. Corbus and Alexander Campbell, all of Grand Rapids.

The papers were as follows:

1. Pernicious Anemia (with slide demonstrations).
James S. Brotherhood, M.D.

Discussion opened by A. G. Sheets, M.D.

2. Vaccine in general practice.

Burton R. Corbus, M.D.

Discussion opened by C. A. Stimson, M.D.

3. Prenatal care (with lantern slide demonstrations)

Alexander Campbell, M.D.

Discussion opened by A. H. Burleson, M.D.

The scientific program was both interesting and instructive to all present.

Following this, "Tuberculosis Day" was discussed and arrangements made, so that all physicians of this county may co-operate with the state committee.

After the meeting members and guests were entertained at dinner by the Eaton Rapids physicians.

Our next meeting will be held at Grand Ledge Thursday July 29. A cordial invitation is extended to the members of the profession generally.

G. M. BYINGTON, Secretary.

MUSKEGON-OCEANA COUNTY

A meeting of the Muskegon-Oceana County Medical Society was held at the Society's room in the Hackley Public Library Friday evening, June 25th.

A paper on "Secondary Anemia" was read by Dr. R. I. Busard of Muskegon Heights.

It was decided at this meeting to donate \$25.00 to the Belgian Physicians Relief Fund.

Our summer schedule begins July 9th, with a meeting at Shelby, Mich. Most of our summer meetings are held in the small towns throughout Muskegon and Oceana counties. These meetings are thoroughly enjoyed as they afford an outing for the physicians as well as a scientific program.

J. T. Cramer, Secretary.

Miscellany

Tanlac.—Tanlac (The Cooper Medicine Co., Dayton, O.) is a "tonic and system purifier" and is exploited to the public by means of extravagant and absurd claims. From an examination made in the A.M.A. Chemical Laboratory it appears that Tanlac is essentially a vinous extract which contains 15.7 per cent. absolute alcohol by volume, a bitter drug (such as gentian), an emodin-bearing drug (such as buckthorn, rhubarb or cascara), a berberine-bearing drug devoid of hydrastine (such as berberis aquifolium), glyceric acid (from licorice), and flavored with wild cherry and to which has been added a relatively large proportion of glycerin. The "Tanlac Laxative Tablets" which accompany Tanlac contained phenolphthalein (*Jour. A.M.A.*, June 5, 1915, p. 1930).

Herbetta Curine.—A package of Herbetta Curine contained three envelopes, labeled 1, 2 and 3, respectively, and in addition a number of red tablets. The A.M.A. Chemical Laboratory found that No. 1

consisted of tablets which contained soluble iron phosphate; No. 2, of tablets which contained some "bitter tonic," and No. 3, of tablets responding to tests for aloes and aloin. The red tablets were composed essentially of strontium and potassium bromide (*Jour. A.M.A.*, June 12, 1915, p. 2006).

Lepso.—The A.M.A. Chemical Laboratory found this to contain bromides, equivalent to fifty-one grains potassium bromide per dose of one-half ounce (*Jour. A.M.A.*, June 12, 1915, p. 2006).

Iodex.—Iodex (Menley and James, Ltd., New York) is said to contain 5 per cent. of iodine; the advertising suggests that the effects of free iodine are to be obtained from the preparation, which yet is said not to stain the skin. It is also claimed that thirty minutes after inunction, iodine can be found in the urine. The chemists of the A.M.A. Chemical Laboratory on examination found that Iodex contained only about half the claimed amount of iodine, that the iodine did not behave as free iodine and that after inunction of Iodex, iodine could not be found in the urine. Because of these findings and because of the unwarranted therapeutic claims made for the preparation, the Council on Pharmacy and Chemistry held Iodex ineligible for New and Nonofficial Remedies (*Jour. A.M.A.*, June 19, 1915, p. 2085).

Venodine.—Venodine (The Intravenous Products Co., Denver) was stated to be "an Intravenous Iodine Compound" put up in ampules, each of which contains "28 grains of Sodium Iodide, $\frac{1}{8}$ grain each of Beechwood Creosote and Guaiacol in a suitable vehicle, and excipients to enhance its compatibility with the circulating blood." The "Therapeutic Indications" were said to include "infectious diseases, such as syphilis, tuberculosis, bronchitis, bacteraemias associated with chronic and acute nephritis (Bright's disease), and other infections." The Council on Pharmacy and Chemistry found Venodine ineligible for New and Nonofficial Remedies because it was exploited under unwarranted and grossly exaggerated therapeutic claims; because neither the name nor the advertising matter indicated that it was a preparation of the well-known sodium iodide; and because the combination of two such similar substances as creosote and guaiacol is unscientific, adding mystery to the preparation without increasing its efficiency (*Jour. A.M.A.*, June 26, 1915, p. 2155).

Calcreose.—Calcreose (Maltbie Chemical Co., Newark, N. J.) contains in loose combination approximately equal weights of creosote and lime. The advertising claims having been revised, the Council on Pharmacy and Chemistry postponed definite action pending submission of proof (1) that the large doses of Calcreose recommended furnish large amounts of creosote to the blood and (2) that patients taking these large doses do not suffer from digestive disturbances, loss of nutrition, albumin in the urine of phenol urine as claimed. At

the same time it was emphasized that this action did not indicate a belief on the part of the Council that enormous doses of creosote are necessary or beneficial in tuberculosis. So far, the Maltbie Chemical Co. has not submitted the required evidence. As the Council's postponement of a report has been made to appear as a quasi-approval, the Council, voted to announce that Calcreose had been refused recognition because the therapeutic claims were exaggerated and unwarranted by the evidence (*Jour. A.M.A.*, June 26, 1915, p. 2155).

Rheumalgine.—Rheumalgine (Eli Lilly & Co.) Indianapolis) is put up both in tablet form and as a liquid. Each tablet, or teaspoonful of the liquid, is said to contain: "Strontium salicylate from Natural Oil 5 gr., Hexamethylenamin 2 gr., Colchicine 1/200 gr." The Council on Pharmacy and Chemistry found Rheumalgine in conflict with its rules in that unwarranted therapeutic claims were made because the combination is conducive to uncritical prescribing and because the name, being non-descriptive of its composition, encourages thoughtless use (*Jour. A.M.A.*, June 26, 1915, p. 2156).

Typhoid Vaccine.—Extensive clinical trial indicates that typhoid vaccine may influence the course of the disease favorably. The results indicate that, if used with discretion, typhoid vaccines do no harm (*Jour. A.M.A.*, June 26, 1915, p. 2139).

Taurocol.—The Paul Plessner Co., Detroit, Mich., markets Taurocol and Taurocol Compound Tablets. The company makes a pretense of giving the formula—minus any quantities—thus: "Taurocol is a combination of bile salts, extract of cascara sagrada, phenolphthalein and aromatics." Taurocol Compound Tablets are said to contain, in each, "Taurocol (Bile Salts)" gm. .1296, "Pepsin 1-3000" gm. .0324, "Pancreatic Ext." gm. .0324, "Extract Nux Vomica" gm. .0081 and "Aromatics" q. s. The Council on Pharmacy and Chemistry points out that the composition and the therapeutic properties claimed for these preparations are essentially the same as those claimed for Veracolate and Veracolate with Pepsin and Pancreatin. It reports that the objections made to these also apply to Taurocol and Taurocol Compound Tablets (*Jour. A.M.A.*, April 24, 1915, p. 1441).

For several years, Schering's Synthetic Camphor has been generally accepted as the absolute chemical equivalent of the natural product. Manufacturers of celluloid and explosives, in particular, have conclusively demonstrated that in these industries the chemically elaborated camphor can readily take the place of the natural and they have used it on a large scale at times when the price of the latter had become exorbitant, as for instance, during and after the Russo-Japanese War.

For the physician, however, Schering's Synthetic Camphor has until recently meant little more than another of those awe-inspiring feats of modern organic chemistry which has robbed Mother Nature of so many of her great secrets and has become her close rival by producing a number of our present day necessities from their basic elements in the laboratory and factory, undisturbed by climatic conditions and other vicissitudes of nature.

At every occasion at which Schering & Glatz, the Schering representatives in the United States, have displayed Synthetic Camphor, it proved a source of great attraction, but also of skepticism, and not until minute examination as to odor, structure, taste, etc. had been made, would bystanders believe that nature's camphor factory—the tree—had ceased to be the only source of supply of this most valuable material.

Endeavors by pharmacologic investigators to have Schering's Synthetic Camphor officially accepted as the medical equivalent of the natural product, seem at last to have received adequate recognition by the authorities and the forthcoming new edition of the U. S. Pharmacopæia is said to do justice to the facts.

Considerable weight must be attributed to the recently published results of an investigation by no less an authority than Prof. C. Bachem of the University of Bonn, (Medizinische Klinik, 1915, No. 15) which reaffirms the absolute identity of the synthetic and the natural camphor and also fully establishes the fact that they possess the same medicinal value.

Almost simultaneously, advices have been received from San Francisco that the Grand Jury of the Panama-Pacific Exposition have awarded a medal of honor, the highest distinction given to that class of exhibit, to the Schering Chemical Works for Synthetic Camphor in its various forms.

Only one other award of equal distinction having been made to the German Chemical Industry, the Schering Chemical Works have good reason to be proud of this new appreciation of the splendid achievement represented by their Synthetic Camphor.

Physicians interested in photography, will also rejoice with the Schering Chemical Works and Messrs. Schering & Glatz at the award of a Gold Medal to the Assur Process, the only known means of applying truly artistic, transparent and permanent color effects to photographs, which can be readily practiced by amateurs and an unusual feature of which is the fact that any errors made can be promptly and repeatedly removed without any injury to the photographs.

The AbilenA Company is fortunate in having the approval and endorsement of the Council of Pharmacy of the A.M.A. for AbilenA Water. With such high endorsement, why not use this American Natural Water? They will gladly send a quantity for personal and clinical trial upon request.

Colgate University at its annual commencement at Hamilton, June 22nd, conferred the honorary degree of Doctor of Science upon Dr. T. J. Bryan,

of Chicago, formerly of the Illinois State Food Commission, and now Chief Chemist of the Calumet Baking Powder Co., in recognition of his distinguished scientific attainments.

Dr. Bryan did his collegiate work at Colgate University where he took his A. B. in 1893 and his Masters degree in 1895. After devoting the next few years to the teaching of chemistry, he went to Germany in 1899, where he studied at Gottingen, Heidelberg and Freiberg, from which latter University he received the degree of Doctor of Philosophy in 1901. On his return to this country he taught Chemistry at Wesleyan, Williams and the University of Illinois until 1906, when Governor Deneen, recognizing the urgent necessity for a strong, forceful character to direct the chemical work of the Illinois Food Commission, appointed him Chief Chemist of that body. This position he occupied for nearly eight years, resigning in 1913 to become Chemist in Chief of the Calumet Baking Powder Co. of Chicago. His retirement from public service to engage in commercial work was recognized in an official report as a notable loss of the state.

Dr. Bryan's record in office was marked by high efficiency along the really practical and useful line of raising the standard of food sold in this state and was characterized by a sound, normal common sense coupled with an exact technical knowledge, a combination by no means common to all officials of that period of fads and fancies of food control during the years following the passage of the Food and Drugs Act.

The conferring of an honorary degree of this character upon a scientist engaged in commercial work is unusual and is therefore all the more gratifying to those who know and appreciate the value of Dr Bryan's work.

The University conferred eight honorary degrees in all. Among the recipients and the degrees given were, Acting Secretary of State Lansing, L. L. D., Benjamin Ide Wheeler, President of the University of California, L.L.D. and Frank M. Williams, New York State Engineer, D.Sc.

"ARTICLES OF FAITH" CONCERNING CANCER—A PLATFORM UPON WHICH TO UNITE IN THE CAMPAIGN OF EDUCATION.

(1) That the hereditary and congenital acquirement of cancer are subjects which require much more study before any definite conclusions can be formed concerning them, and that, in the light of our present knowledge, they hold no special element of alarm.

(2) That the contagiousness or infectiousness of cancer is far from proved, the evidence to support this theory being so incomplete and inconclusive that the public need have no concern regarding it.

(3) That the communication of cancer from man to man is so rare, if it really occurs at all, that it may be practically disregarded.

(4) That those members of the public in charge of or in contact with sufferers from cancer with external manifestations, or discharges of any kind, need at most take the same precautionary measures as would be adopted in the care of any ulcer or open septic wound.

(5) That in the care of patients with cancer there is much less danger to the attendant from any possible acquirement of cancer than there is of septic infection, or blood poisoning from pus organisms.

(6) That in cancer, as in all other disease, attention to diet, exercise and proper hygienic surroundings is of distinct value.

(7) That, notwithstanding the possibility of underlying general factors, cancer may, for all practical purposes, be at present regarded as local in its beginning.

(8) That, when accessible, it may, in its incipency, be removed so perfectly by radical operation that the chances are overwhelmingly in favor of its non-recurrence.

(9) That, when once it has advanced beyond the stage of cure, suffering in many cases may be palliated and life prolonged by surgical and other means.

(10) That while other methods of treatment may, in some cases, offer hope for the cancer victim, the evidence is conclusive that surgery, for operable cases, affords the surest present means of cure.

(11) That among the many advances in and additions to cancer treatment, the improvements in and extensions of surgical procedure surpass those in any other line, and fully maintain the pre-eminent position of surgical palliation and cure.

(12) That there is strong reason to believe that the individual risk of cancer can be diminished by the eradication, where such exist, of certain conditions which have come to be regarded as predisposing factors in its production.

(13) That some occupations, notably working in pitch, tar, paraffin, analin or soot, and with X-Rays, if not safeguarded, are conducive to the production of cancer, presumably on account of the chronic irritation or inflammation caused.

(14) That prominent among these predisposing factors, for which one should be on guard, are: general lowered nutrition; chronic irritation and inflammation; repeated acute trauma; cicatricial tissue, such as lupus and other scars, and burns; benign tumors—warts, moles, nevi (birth-marks), etc.; also that changes occurring in the character of such tumors and tissues, as well as the occurrence of any abnormal discharge from any part of body, especially if blood-stained, are to be regarded as suspicious.

(15) That while there is some evidence that cancer is increasing, such evidence does not justify and present alarm.

(16) That suggestions which are put forward from time to time regarding eugenic, dietetic and other means of limiting cancer, should not be accepted by the public until definitely endorsed by the consensus of expert opinion. Such consensus does not exist today.

(17) That so far as we know there is nothing in the origin of cancer that calls for a feeling of shame or the necessity of concealment.

(18) That it will be promotive of good results if members of the public who are anxious about their health and those who wish to preserve it will, on the one hand, avoid assuming themselves to be sufferers from one or another dreadful disease, but, on the other hand, will submit themselves periodically to the family physician for a general overhauling.

(19) That at all times and under all conditions there is much to be hoped for and nothing to be feared from living a normal and moderate life.

(20) That the finding of any abnormal condition about the body should be taken as an indication for competent professional and not personal attention.

(21) That watchwords for the public until "the day dawns" and the cancer problem is solved, are:—Alertness without apprehension, hope without neglect, early and efficient examination where there is doubt, early and efficient treatment when the doubt has been determined.

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No. 9

Original Articles

ADDRESS OF WELCOME.

E. H. WEBSTER, M.D.

SAULT STE. MARIE, MICH.

The medical men of the counties of Luce, Mackinac and Chippewa are most sincere in their greetings of welcome to the representatives of our great Medical Society of the State of Michigan, to our guests from the Lower Peninsula, and to the medical gentlemen of the Upper Peninsula.

As the years go on there is an increasing pleasure in renewing the old friendships and in making new ones, tinged a bit by noticing that here and there there are gaps in the ranks, left by those who will never come again.

The Upper Peninsula Medical Society began its lusty life twenty-two years ago at a time when medical society meetings were extremely rare in these parts; its continued growth as evidenced by ever increasing interest in the meetings is a source of much gratification, and our Chippewa County Society wishes to heartily thank those whose names appear on the program for their prompt, loyal and generous response.

If your stay with us will have been pleasant and profitable sending you home with the feeling that the meeting has added something to your usefulness we shall be more than rewarded for the pleasure you have given us by your discourses and helpful presence. Again the Chippewa Medical Society gives you a most hearty and sincere welcome.

PRESIDENT'S ADDRESS.*

J. G. TURNER, M.D.

HOUGHTON, MICH.

I wish to thank you very sincerely for the honor you have conferred upon me in selecting me as your Presiding Officer, and hope and feel sure that, with the assistance so cordially given by the local society, that this meeting may prove one of the most successful in the history of the organization.

There are so many papers of such interest, on the program, that I will consume only a short time in giving you some impressions made upon me during a recent visit with Dr. C. A. L. Reid, of Cincinnati, and witnessing some of his work in the operative treatment of epilepsy. I became particularly interested in this matter through the futile efforts of a patron of mine, who had spent unlimited time and money to obtain relief from this condition, in a child of his, and hearing of Dr. Reid's work along this line, decided to consult him, and asked me to accompany him; the Doctor is an enthusiast on this subject, and after hearing him explain his views, giving his reasons therefor, and seeing the relief afforded in a number of cases, heretofore regarded as beyond help, one can not but feel that he is possibly upon the eve of a new era in discovering the cause, and treatment of this most frightful disease.

In the progress of his operative work for the treatment of constipation due to mechanical causes, Dr. Reid found among a large number of operative cases, five that had been subject to epilepsy, prior to the operation, which was fixation of the colon and had been entirely relieved over a period varying from seven (7) months to three (3) years following this procedure; this suggested to him some relation between the two conditions, namely, constipation and epilepsy, and when upon further investigation he found that, while 100 per cent.

*Twenty-second Annual Meeting Upper Peninsula Medical Society, Sault Ste. Marie, August 4-5, 1915.

of epileptics were constipated, only a small percentage of constipated persons suffered from epilepsy, he concluded that there must be some specific poison present in some cases, and absent in others, to produce such different symptoms, where practically the same conditions existed; and, working along these lines he has recently succeeded in demonstrating an anerobic bacillus from the lymph glands of the duodenum.

All cases that have come to operation, have shown first by the usual clinical examination; next, by careful X-ray examination, and finally by surgical exploration, some mechanical interference with the free activity of the bowels.

The conditions which are always found upon surgical exploration are first, a peri-duodenitis; second, an exudation with adhesions surrounding the duodenum; third, a bacterial infiltration of the retro-duodenal lymphatics.

Centering about the colon you find one or more of the following conditions: Ptosis involving the transverse-colon, or the hepatic flexure, or the splenic flexure, or all three. Second, a dilation and hypermobility of the caecum; third, a redundancy of transverse colon; fourth, a redundancy of the sigmoid; fifth, an insufficiency of the ileo-cecal valve; sixth, obstructive angulation of the ileum near its cecal juncture. This group of symptoms centering about the colon Reid terms "constant." In the sense that one or more of these conditions are always present, producing the condition that is uniformly present namely, "intestinal stasis."

OPERATIVE MEASURES.

It is essential always to liberate the duodenum from its incumbering adhesions, which generally bind it down, as if by a flat rubber sheet, either to the posterior wall, or the proximal surface of the duodenal arch, or the pancreas, or, as is very generally the case, to the gall-bladder. The correction of this condition is of prime importance, for unless this is done, there can be no hope for the restoration of the duodenal function. In these cases, the doctor removes a retro-duodenal gland, for the purpose of making a vaccine; he thinks that it is here that you get an absolutely pure culture of what seems to be the offending micro-organism of the disease.

The second group of operations naturally centers about the colon, and varies according to the conditions that are presented. In the case of a mobile cecum it is anchored by bringing out the appendix, through a stab-wound in the right lower quadrant. It is further utilized

for introducing a catheter into the cecum; a true appendicostomy. To overcome the ptosis of the colon, when the walls of the colon have not been purged to death, there is a possibility of restoring the functional powers by Reid's operation of retro-peritoneal implantation. The technic is as follows: First, the upper zone of the abdomen is opened by oblique incision about 8 cm. in length, extending along the right costal margin upward and inward to a point corresponding to the second costal cartilage, and thence directly across both recti muscles to a point corresponding, to the opposite costal cartilage.

Second, the lower margin of this wound is everted and the peritoneum is stripped back a distance of approximately 1 cm. thus exposing the under-surface of the deep fascia.

Third, the ptotic colon and stomach with both omenta are now brought up and are delivered through the incision, the colon being spread out on a warm moist towel.

Fourth, an opening is made into the gastro-colonic space, into which one or two fingers are passed.

Fifth, with these two fingers acting as guides, half a dozen or more ligatures half an inch apart are passed parallel to each other in and out through the mesocolon, extreme care being taken to avoid all blood-vessels and chyle-ducts. When all these ligatures have been passed, each is tied, thus shortening the mesocolon by several inches.

Sixth, a long strand of chromicized catgut is now employed for a continuous suture, which is fixed in the deep fascia at the lower and outer tip of the wound. It is then passed through the base of the greater omentum, along the margin of the colon in such manner that, when tied, the outer surface of the base of the omentum is tightly approximated against the deep fascia, leaving the omentum to hang down, curtain-like, on the inside of the abdomen. The continuous suture is then carried across by taking a small bite of fascia and a larger bite of omentum, until the 30 cm. or more of omentum has been implanted in 8 or 10 cm. of the everted flap of the wound. Great care must be taken to avoid the omental blood-vessels.

Seventh, the wound is closed by a continuous buttonhole suture of chromicized catgut passed through the superficial fascia, muscle and deep fascia of the lower lip, catching the smaller omentum and coming out through the peri-

toneum, deep fascia, muscle and superficial fascia of the upper lip of the wound.

This continuous suture may be fortified by a few figure-of-eight sutures or silk-worm gut, the inner loop catching the margins of the superficial fascia and the outer loop embracing the fat and skin.

If the transverse colon is too redundant to be controlled by this means, he sometimes resects a portion, doing an end to end anastomosis. In cases of a marked redundancy of the sigmoid, he resects as much as is necessary to secure free activity of the lower colon. In cases where the entire colon, including the cecum, is obviously functionally dead, that is where it has been purged to death, he does a colectomy. In the first series of cases, this was done as a two-step operation. First, doing an ileo-sigmoidostomy, followed later by a colectomy proper; but after one or two unfortunate experiences in which the epileptic attacks recurred, due to the regurgitation of the poisonous contents of the small intestine, into the dis-used part of the colon, requiring a secondary colectomy and in which the removed bowel, with its fecal contents, weighed in one case four (4) and in another six (6) pounds, he decided that when necessary to be done at all, it had better be done at a single operation.

Following the operation, whatever may be done, except in cases of colectomy, the colon is irrigated, through the catheter passed into the cecum; this is done daily for a varying period. As the offending organism seems to be a facultative anerobic bacillus, the entire intestinal tract is subjected to the influence of oxygen by means of agar-agar and hydrogen-dioxide. A vaccine is made from the retroduodenal glands, hoping to combat the toxic elements that are already in the system. A permanent rectal tube is kept in for several days. I saw Dr. Reid operate six cases while in Cincinnati, and in each one he demonstrated, a marked peri-duodenitis, and in four of the six there was so great redundancy of the sigmoid, that he resected from eight to thirteen inches in each case.

I saw a number of cases, that had been operated from three days to six weeks, and in only one had there been a recurrence of the convulsive attacks.. This was in one boy who, prior to the operation, had almost daily attacks, and who did well until the catheter was accidentally removed, when he had one or two mild attacks, which were entirely relieved, when the catheter was re-introduced, and the intestinal flushings

were resumed. One man, a missionary from India, told me that for the last ten years he had at least averaged one attack a day; had had none for six weeks, following the operation, in which the the sigmoid was resected, and the ptotic stomach and colon had been replaced by Dr. Reid's operation, of retro-peritoneal implantation. This may be only a passing fad in medicine, but the results obtained so far, have been such as to lead us to believe that it is at least worthy of further investigation.

OBSERVATIONS OF THREE THOUSAND FIVE HUNDRED NINETY OBSTETRICAL CASES.*

GEORGE G. BARNETT, M.D.
ISHPEMING, MICH.

I appreciate the fact that this paper is probably of quite as much, possibly more interest to me than to anyone else; but several members of the society have very kindly suggested that I prepare it, and also that it would prove of some interest to all of you. If such should prove to be the case I shall feel amply rewarded for the considerable amount of work necessary in preparing it. The cases included in the following report, with the exception of nineteen, were all attended in Marquette County, and nearly all of them in Ishpeming and immediate vicinity. They include the time from April, 1886, to date. The title of this paper, "A summary of 3,600 cases," was chosen with the very confident expectation that my friends and patients would assist me in demonstrating the correctness of the title. They, however, have failed me to the extent of ten cases, and this report includes only 3,590 cases.

Three thousand six hundred cases in thirty years is an average of 120 per year, ten per month for the entire term. When added to all the other work of a busy physieian, this should prove enough to keep him reasonably active, as well as to interfere to some extent with his nights' rest. Those of you who do a large obstetric practice will, I am sure, heartily endorse this statement.

In a city where the population is stationary, or possibly decreasing somewhat, the birth rate must necessarily decrease. This has been the case at Ishpeming. In 1897, our birth rate was 40.2 per thousand population as compared with 24.3 per thousand population in March of this year as given by the Seeretary of State.

*Read at the Annual Meeting of the Upper Peninsula Medical Society, Sault Ste. Marie, August 4-5, 1915.

It is apparent to all of you that a report of this kind including this number of cases could be elaborated indefinitely. I have, however, confined myself to the more important details. "Age of mother," "nationality," "sex," "weight," "presentation," "position," "month," "hour," (A. M. or P. M.), "number of labor," "number of times attended," "still-born," "twins," "illegitimate," "forceps," "version," "placenta-previa," "convulsions," "two labors in one year," "second generation cases" and "deaths from all causes."

I have not separated premature births from full term, and the record includes cases after and including the sixth month of pregnancy. This explains the apparently large per cent. of "stillborn" cases; abortions and miscarriages earlier than the sixth month are not included.

Three thousand five hundred ninety cases involve 1,846 women and 3,639 children; the difference between the number of cases and the number of women indicate the number of cases attended more than once; the number of children more than the number of labors indicate the number of plural births.

MOTHER'S AGE.

15	4	32	172
16	12	33	165
17	28	34	125
18	50	35	141
19	90	36	113
20	145	37	97
21	159	38	100
22	180	39	69
23	204	40	69
24	179	41	42
25	225	42	49
26	226	43	26
27	169	44	19
28	211	45	11
29	166	46	3
30	181	47	4
31	156		

3,590

Highest number at age 26.

Lowest number at ages 15 and 47.

Oldest "primipara" 40.

Youngest "primipara" 14 years, 8 months.

NATIONALITY.

English	985
Finnish	704
French	570
Swedish	279
Irish	256
Italian	241
Norwegian	144
Manx	118
American	115
German	62
Canadian	62
Polish	25

Danish	22
Scotch	16
Jewish	10
Belgian	4
Syrian	4
Welsh	4
Newfoundland	4
Holland	1

Total 3,590

NUMBER OF LABOR.

1st	670—18.6%
2nd	615
3rd	540
4th	442
5th	334
6th	271
7th	208
8th	155
9th	111
10th	85
11th	63
12th	38
13th	25
14th	17
15th	10
16th	4
17th	1
18th	1

Total 3,590

SEX.

Males—1,835

Females—1,804

Total—3,639

PRESENTATION.

Vertex	3,415—95.5+%
Breech	99
Foot	46
Face	32
Transverse	21
Arm and shoulder	18
Breech and hand	5
Both hands	1
Shoulder	2

Total 3,639

Five less vertex cases would correspond to Hirst's estimate of 95.5 per cent. Twelve more cases would correspond to DeLee's estimate of 95.9 per cent.

POSITION.

1st	2,794
2nd	55
O. P.	95

WEIGHT.

Lbs.	No.	Weight
2	6	12
3	17	51
4	43	172
5	91	455
6	263	1,578
7	799	5,593
8	869	6,952
9	684	6,156

10	257	2,570
11	54	594
12	22	264
13	5	65
14		
15	1	15
16	1	16
	<hr/> 3,112	<hr/> 24,495
	24,495	Total weight
<hr/>		
Average weight	3,112	= 7.87 lbs.

My heaviest baby weighed 16 pounds but was stillborn after a hard, tedious, difficult labor. The next largest was born alive, and still lives, a boy, weighed 15 pounds and furnished the following measurements: Height, 25 inches; chest, 17 inches; shoulders, 20 inches; waist, 17½ inches; thigh, 8½ inches; arm, 6 inches; was born on the 24th day of January, and mother menstruated last week of March previous, and insisted that she had been pregnant ten months. On account of the size of the child and the statement of the mother I took the liberty of writing to Prof. Edward P. Davis, Professor of Obstetrics, Jefferson Medical College, who was in Rush Medical College at the same time I was, and with whom I was slightly acquainted.

I gave him the weight and measurements, also the statement of the mother, and he replied as follows:

February 9, 1912.
Dr. George G. Barnett, Ishpeming Hospital,
Ishpeming, Mich.

Dear Dr. Barnett:
I am very glad to hear about your interesting case, by your letter of February 6th, and especially glad to hear from a Rush graduate of 1884. The size of the child was unusual, and the mother's belief that she was pregnant ten months is undoubtedly correct. Five per cent. of all pregnancies approach 300 days in length and five-tenths of one per cent. reach 320 days.

I have never seen a child weighing more than 13 pounds at birth, and I am very much interested to hear of your case, as it is an accurate report.

Thanking you for sending me the information, and with kind regards and best wishes, I remain
Very truly yours,

EDW. P. DAVIS.	
MONTH.	
January	279
February	283
March	334
April	322
May	345
June	262
July	327
August	339
September	301

October	267
November	243
December	288
	<hr/> 3,590

TIME.	
A. M.	P. M.
206	140
184	136
172	109
145	132
204	110
154	129
151	147
172	125
146	142
161	156
153	156
136	114

1984 from 1 A. M. to 12 A. M. inclusive.	1596 from 1 P. M. to 12 P. M. inclusive.
Largest number 206 at 1 A. M.	
Smallest number 109 at 3 P. M.	
388 more A. M. than P. M.	

TIMES ATTENDED.	
1st	1,846
2nd	782
3rd	430
4th	239
5th	124
6th	68
7th	47
8th	26
9th	12
10th	7
11th	4
12th	4
13th	2
	<hr/> 3,590

STILLBORN.	
113—3.1 per cent.	
Male—68.	Female—45.
“PLACENTA PREVIA.”	
11 Cases.	2 Deaths.
“ILLEGITIMATE.”	
28 Cases—.8 of one per cent.	
Male—15.	Female—13.

Both my “stillborn and “illegitimate” cases are well within the average as per following letter from the Secretary of State:

Lansing, June 12, 1915.
Dr. Geo. G. Barnett,
Ishpeming, Mich.
Dear Sir:

We are in receipt of your letter of June 9 and below you will find a table giving the information desired for the years 1906 to 1913, inclusive.

Year	Percent Illegitimate	Percent Stillborn.
1906	1.9	4.0
1907	1.8	3.9
1908	1.4	3.5

1909	1.6	2.6
1910	1.6	3.3
1911	1.7	3.5
1912	1.8	3.6
1913	1.6	3.4

13.4	27.8
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1.7	3.5
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Very respectfully,
COLEMAN C. VAUGHAN,
Secretary of State.

Forceps applied 186 times.

VERSION SIXTY TIMES.

		Stillborn	Living
Male	40	23	17
Female	20	4	16
	60	27	33

TWO LABORS IN ONE YEAR.

60 cases. 26 full term; 34 premature.
3 children in one year—5 cases.
4 girls in one year and 12 days—1 case—twin girls twice.

TRIPLETS.

I have had one case of "triplets." Case No. 1938. Eighth, ninth and tenth children, all girls. Weight $5\frac{1}{2}$ lbs., $5\frac{1}{2}$ lbs., and 5 lbs., first vertex, second breech, third vertex. Born at 5:45, 6:15 and 6:30 a. m. One placenta weighed 3 lbs., divided into three amniotic sacks. Two cords each 18 inches long, one 24 inch. Born Dec. 12, 1902. One died at 16 days, other two still living. Triplets born in Ishpening once before, July 3, 1881. Two boys and one girl. Lived three, four and five weeks respectively. Triplets occur once in 6,500 to 7,910 cases.

TWINS.

49 Cases.

Male—33.

Female—65.

My first twenty consecutive cases of twin labors show the following results: Males 11; females 29.

	M	F
Both males, three times	6	
Both females, 12 times		24
Male and female five times	5	5
	11	29=40

Average weight of males, 7.45 pounds; females, 6.55 pounds.

Largest males, 8 and 8 pounds; largest females, 9 and 10 pounds.

Smallest males, 7 and 7 pounds; smallest females, 4 and 4.5 pounds.

PUERPERAL CONVULSIONS.

Nine cases, with one death; a mortality rate of 11 per cent.

Eclampsia occurs, according to Hirst, once in 300 cases, and the mortality is 30 per cent. My number of cases has been 25 per cent. less, and my mortality 19 per cent. less than the average.

SECOND GENERATION.

I have had 43 cases of second generation. Oldest girl eight years. After seven or eight years more, I expect to go around for the third time.

DEATHS.

In 3,590 cases I have had nineteen deaths; five in the first five hundred cases, a mortality of 1 per cent.; fourteen in 3,090 cases or a mortality of .45 of 1 per cent.; a mortality for the whole series of $\frac{1}{2}$ of 1 per cent. These deaths were from all causes; two complicated with pneumonia; one with pneumonia and violent mania; one with typhoid fever; one with appendicitis; one with rheumatic fever; one with pernicious anemia; two from placenta-previa; one from eclampsia; one from shock and hemorrhage; the others from septic infection and peritonitis.

ABNORMALITIES.

In such a series of cases many unusual and abnormal cases occur, and I have noted some of them.

I have had five cases Spina-Bifida: three males, two females. Three cases acephalous monsters

Two cases imperforate anus. Both died.

One case of persistent hymen, divided with scissors before child could be delivered.

Extreme length of umbilical cord: 29, 31, 37, 38 inches. Average length 22 inches.

One mother weighed 95 lbs., child weighed $9\frac{1}{2}$ lbs. 10 per cent. of mother's weight.

One born without left fore arm. One without left ear. One without thumbs.

One born with two thumbs on left hand. Here was a thumb wasted that could have been used to good advantage on the other case.

One case without ears or forearms, hands without thumbs attached to end of each humerus.

One patient a grandmother at 32 years. A patient married six years had five children in three labors.

Another patient was married thirteen years before she had her first baby.

Another married eleven years before her first baby. As compared with these two, the shortest pregnancy or shortest period after marriage,

before first baby, was from Aug. 12 to Aug. 22, ten days. One case baby born Friday P. M., parents married Monday A. M. following.

While one of the women mentioned above was waiting thirteen years for her first baby, another patient during the same time had a baby on each of the following dates: April 4, 1900; March 30, 1901; July 16, 1902; July 10, 1903; June 28, 1904; August 23, 1905; September 22, 1907; March 1, 1909; February 17, 1910; January 24, 1911; January 24, 1913; December 11, 1914.

In one case of placenta-previa, hemorrhage came on at 7th, 8th and 8½ months of pregnancy. Child born alive and mother recovered without any trouble, mentioned as unusual, not as a suggestion for treatment.

One case webbed fingers and toes.

One case 24 fingers and toes. Six digits on each extremity.

One case where child was born absolutely without pain. Mother slept well all night, got out of bed in the morning, sat down on the vessel and baby came at once, without pain, third labor. The only possible explanation I can offer is that her name was Mrs. Wm. Quick.

I have had one case of my own and seen one case in consultation with Dr. Braden of "hydatidiform mole," or "myoma of chorionic villi." The supposed pregnancy in each case went on to the fifth and sixth month; but each patient noticed and mentioned the fact that they were much larger than was natural, for the length of time pregnant. Quite a free hemorrhage announced the beginning of trouble, and after some severe pains, a large mass, in each case, of small cysts joined together by connective tissue was expelled. By large mass I mean enough to nearly fill an ordinary chamber vessel. I mention these cases because of their extreme rarity. They occur once in 17,000 to 20,000 times according to different authors.

CONCLUSION.

In the foregoing report I have endeavored to show some of the results of thirty years' hard, continuous, conscientious work for the welfare and safety of the patients who employed me. I regret exceedingly, as we all do, the mortality; I wish it might have been less or "nil." I, however, do not charge myself with neglect or lack of attention to any patient included in the mortality list—I gave them the best service I could of myself and my consultants in every case. If you have criticism to offer, I shall receive it in the same spirit

in which it is offered. If you have congratulations to offer I shall be becomingly modest. If this experience of mine should be a matter of indifference to some of you, "we will still be friends."

SYPHILIS OF THE LIVER, IMITATING CIRRHOSIS.

A. I. LAWBAUGH, M.D.

CALUMET, MICH.

That syphilis frequently affects the liver has been known for many years, but no one realized how frequently until quite lately. The Wassermann reaction in the blood has taught us the meaning of many visceral lesions whose causation was formerly obscure, some of these in heart and aorta, for example, as well as in the lungs, kidneys, and brain.

So with the liver, manifestations of many different types of disease are now recognized to be due to syphilitic infection, and conditions formerly considered hopeless, because there was no way known to overcome them, are now occasionally combated successfully by attacking the disease that underlies them. Rollistin in his text-book on Diseases of the Liver describes seven different groups of cases which syphilis of the liver may simulate. (1) Portal cirrhosis; (2) lardaceous disease; (3) tumor of the liver; (4) hepatic suppuration; (5) cholelithiasis; (6) splenic anemia; (7) hypertrophic or atrophic biliary cirrhosis. Marshall in his late work on syphilis, says, "Syphilitic lesions of the liver include (1) diffuse interstitial hepatitis; (2) circumscribed gummata; (3) amyloid disease, (4) acute yellow atrophy. These syphilitic lesions cause or imitate cirrhosis in the largest group, and it is surprising how often in a case corresponding in every clinical detail to portal cirrhosis, either hypertrophic or atrophic, a positive Wassermann reaction is found and improvement and even cure follow specific treatment. Adami has shown that the diffuse cell infiltration, originating around the walls of the small blood vessels, may be caused by syphilitic endo-periarteritis. This small-celled infiltration develops into fibrous tissue, leading to contraction of these newly-formed fibrous tissues, the liver becomes lobulated and nodular on the surface, or "hobnail" which is usually associated with alcoholics. Bramwell remarks, "Why is it that one man who drinks gets cirrhosis of the liver, while another man who drinks does not?"

*Read at the Annual Meeting Upper Peninsula Medical Society, Sault Ste. Marie, August 4-5, 1915.

Can it not be that syphilis is an important factor in the production of the ordinary, or so-called alcoholic form of cirrhosis? In other words, syphilis renders the connective and vascular tissues of the liver more vulnerable to other exciting causes. The symptoms of syphilitic cirrhosis may be the same, and usually are the same as in ordinary cirrhosis, such as jaundice, vomiting, hemorrhages, ascites and anasarca of the lower extremities. Hepatic syphilis is often overlooked and mistaken for alcoholic or malignant disease. Jaundice and even ascites are more common in malignant disease than in hepatic syphilis, and gunma are usually of slower growth than malignant growths. In all doubtful cases the therapeutic test, after the Wassermann reaction should be made. There may be a combination of malignancy and syphilis, or an implantation of one upon the other, and in such manifestations it is practically impossible to make a correct diagnosis even if a Wassermann is made. The two conditions may be present simply by coincidence, and not at all as cause and effect. But the recognition of cirrhosis of the liver does not always lead to a test for syphilis as a possible cause, and so much valuable time may be lost, and a true understanding of the facts come too late. The possibility of malignant disease should be borne in mind when a nodular liver and ascites are combined. Patients who complain of stomach trouble with hematemesis should put us on our guard as to the possibility of cirrhosis of the liver, and its luetic cause.

In furtherance of the foregoing observations, I now give a case in point.

Called in consultation on a case, man 45 years old; had been ill for two months with severe pains in head, arms and lower limbs. The last weeks, ascites and anasarca of lower limbs had developed quite rapidly.

Examination.—Pulse and temperature normal. Several urinary examinations previously made did not show any abnormality. Heart and lungs healthy. The man was not nor had he ever been an alcoholic. For various reasons the treatment was not thoroughly carried out at this time. One month later he came into my hands for treatment, in practically the same condition as at the consultation. From the character of his pains and the fact that they were nocturnal as to time, and not an alcoholic, decided me that syphilis was very probably the cause, although the patient positively denied any infection. A Wassermann on his wife showed no reaction. Two Wassermann reactions, made by separate laboratories reported strongly positive. A complete chemical and microscopic urinary examination negative. Heart

and lungs negative. Blood count 4,000,000 reds, 9,000 whites. Abdomen greatly distended with fluid, lower limbs and genitals greatly anasarcaous. General condition poor, from lack of sleep and nourishment.

A tentative diagnosis was made of probable atrophic cirrhosis of the liver probably of syphilitic origin. The great amount of ascites precluded any liver palpation. All the chest organs were markedly pushed up.

Treatment.—Tapping of abdomen, salines sufficient to produce several watery evacuations daily, 10 grams potassium iodid well diluted, three times a day, and an increase daily so that at the end of two weeks he was taking grs. xxx, three times a day. Also deep muscular infections of mercuric iodid, red 1 per cent., three times a week. Under this treatment the patient made a rapid recovery, and in two months he was practically well of his symptoms, but the treatment was continued for some time longer. At present time he is feeling very good.

I would add that after the tapping the liver was found by palpation to be markedly smaller, and not nodular as far as could be made out.

CONCLUSIONS.

The lessons to be learned from the foregoing case are the following.

1. In any case that appears to cirrhosis of the liver, judging from clinical history and physical signs, the blood should always be examined for syphilis. If the Wassermann reaction is positive, vigorous specific treatment will without much doubt produce marvelous improvement, not to be expected in any other way; bearing in mind, however, that even should the reaction be positive, the liver disease may not be luetic, and so the specific treatment may prove of no avail; yet at the same time the therapeutic test will have given valuable information and have done no harm.

2. There is no certain way to tell which case of hepatic cirrhosis is luetic and which is not, except by the blood test, for previous history of infection, or of other earlier manifestations of syphilis, as well as stigmata produced elsewhere in the body by the disease may all be lacking absolutely; while there may be nothing about the condition of the liver on physical examination of the symptoms it produces, to determine the etiology or to distinguish ordinary portal cirrhosis from luetic.

3. Syphilitic cirrhosis of the liver is a common form of hepatic disease, and must never be forgotten in the differential diagnosis of any

case where symptoms and signs point to the liver as the organ involved.

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BRONCHOSCOPY AND ESOPHAGOSCOPY.*

H. M. CUNNINGHAM, M.D.
 MARQUETTE, MICH.

The possibility of direct examination of the larynx, trachea, bronchi and esophagus is now so generally understood that it is needless to go into the history or the technic of the method. What I wish to do is to report a few cases in which the method was of service, with a view of stimulating your interest in the subject.

A few preliminary remarks as to the indications and symptoms calling for examination will not be out of order. Among these, the suspicion of a foreign body is perhaps the most definite. When there is a clear history of a foreign body having been swallowed or inhaled, there will naturally be little hesitation on the part of either the patient or his physician, but, the conclusion is unavoidable that many of such cases, where the history has been less definite, have escaped diagnosis.

It is impossible of belief that it is only during the past few years that such accidents have become common, or that they are increasing in number from year to year. This apparent increase is, of course, only an evidence of the spread of knowledge and skill, and it will be a credit to you if you see more of such cases during the next year than you have in the year just passed. Be sure that you do not call them croup, diphtheria, pneumonia, whooping cough, tuberculosis, stricture or cancer. Do not exclude the possibility of the presence of a foreign body on account of the duration of the trouble, for they may be retained for a long time; or because of chills or a rise in temperature, which may mean sepsis.

When the case is not urgent, the examination should be preceded by the taking of a good radiogram, unless, from the history, one knows that owing to the nature of the substance, the

shadow will not be sufficiently dense to be of service. As a general rule this is true of vegetable substances. Metals of course are the most opaque, but pebbles, marbles, pieces of bone and even glass give fair shadows. It is important that no unnecessary time should be lost as the prognosis is much better when the case is seen early.

The following histories are those of foreign bodies occurring in my own practice:

1. V. L. Aged 13. Referred to me by Dr. McIntyre of Gwinn, Oct. 29, 1910. He gave a history of having swallowed a pin while at school the day before. Since then it has hurt him to swallow. Under cocaine anesthesia the pin was found imbedded in the posterior wall of the esophagus on the left side at the level of the cricoid cartilage. It was readily removed and the patient experienced no further trouble.

2. L. O. Aged 33. Also referred by Dr. McIntyre on Dec. 30, 1910. He showed me a piece broken from a tooth plate and stated that a larger piece with two artificial teeth was lodged "right here" pointing to the lower end of his sternum. It had been there since the night before. As a rule little confidence can be placed in the patient's sense of localization in the throat or esophagus, but this man proved to be accurate as the plate was found at a distance from 26 cm. from the incisor teeth. It required considerable effort to dislodge the plate as the two incisors which it contained were sharp and extended above the edge of the plate as you will see when you examine the specimen. It was extracted under cocaine in the upright position. The patient was put to bed in the hospital with orders that he was to swallow nothing until the next day, but as an empty whiskey bottle was found under his pillow the next morning, I have great doubts that my instructions were carried out. However he made an uneventful recovery.

3. E. O. Aged 5. Was referred by Dr. T. M. Cunningham May 23, 1911 with a history of having swallowed a nickel the day before and inability to swallow since. A radiogram was taken and the coin demonstrated at the level of the cricoid. As she was very obstreperous and had no interference with respiration, she was given a little chloroform and the nickel was easily removed. The coin looked very large in the little gullet and I remarked: "this is not a nickel but a quarter;" however, the history proved to be correct. She complained that it hurt her to swallow all the next day, but was all right afterward.

4. W. M. Aged 66. Came to me March 10, 1913 complaining that he had been able to swallow nothing but liquids for the past three days and they hurt him. He had no idea what the trouble was but supposed it was a cold. Nothing abnormal could be seen in the pharynx or as far down as one could see with the mirror. He denied swallowing anything that hurt him. I sent him to the hospital for observation and found him no better the next morning with a temperature of 101.5. I decided to have a radiogram taken but, while waiting for the

*Read at the Annual Meeting Upper Peninsula Medical Society, Sault Ste. Marie, August 4-5, 1915.

operator, I discovered, after a great deal of questioning, that his last meal had been of codfish. I now decided against the use of the Roentgen ray since the shadow given by a fish bone is very unsatisfactory, and I knew that the patient, who was a very self-willed man, would insist on being shown the exact location of the shadow before he would let me pass the esophagoscope, to the use of which he strenuously opposed. I was determined to proceed however, and after much talking, gained his reluctant consent to do so. It was the most difficult case in which to pass the tube that I ever had, as the patient had a short bull neck and besides resisted all attempts. I finally succeeded and found a pronounced swelling in the left pyriform sinus that looked like an abscess. Upon passing the tube a little farther down and thus distending the esophagus, about half an inch of the middle of a fish bone could be seen. This was seized with the forceps and with quite a pull withdrawn. It proved to be a codfish bone two inches long both ends of which had been imbedded in the esophageal walls. I was a little anxious as to the outcome of the case, fearing sepsis which is very fatal in the esophagus but the inflammation quickly subsided and he was all right in a few days.

5. J. F. Aged 29. Referred by Dr. A. V. Braden. The evening before had been amusing himself by tossing a nickel in the air and catching it on his tongue. The last time he did so the coin bounded back into his throat and disappeared. He felt a sense of strangulation for a few seconds and had a short spell of coughing after which he was perfectly comfortable. If the call for Dr. Braden had not been sent immediately, it is doubtful that anything would have been heard of the case until secondary symptoms arose, for when he arrived, he was told that although alarmed at the time, everything was all right now as the nickel had gone down. The doctor who is a very careful man did not feel satisfied until a radiogram was taken which showed the nickel to be lodged at about the bifurcation of the trachea. From the history of the spell of coughing the indications were that the coin had entered the respiratory tract. Physical signs were, however, negative as the air seemed to enter all parts of the lungs freely. Under cocaine the bronchoscope was passed without the slightest inconvenience and the coin found edge up in the lumen of the right bronchus. The vertical position of the coin accounted for the lack of physical signs, and also made the extraction a very simple matter. This case illustrates the benefits of thoroughness and also the necessity of considering the possibility of a foreign body in any obscure lung condition, for if the patient had not been seen until several months had elapsed, the history of the nickel might not have been elicited.

6. E. W. Aged 12 months was the victim of a peanut shell. On Sunday morning March 7, 1915 my assistant, Dr. F. O. Paull, was called from his home in great haste and found a baby apparently choking to death. The distracted parents and six other children were all howling in chorus so that it was difficult to learn the nature of the trouble. A profusion of peanut husks scattered about the floor helped out the incoherent statements of the

mother and a diagnosis was made. As the case seemed very urgent the doctor tried to dislodge the offender with his finger and though failing to do so, succeeded in moving it so that the little patient got some air and regained slightly better color. When I saw the case a half an hour later, the breathing was accompanied by a whistling sound and the child became cyanotic on the least exertion. There was almost complete aphonia. The bad breathing rendered an anesthetic out of the question, so the baby was wrapped tightly in a blanket and held while the laryngoscope was passed. The piece of peanut shell that you will see in the collection was found impacted in the larynx between the vocal cords. All the symptoms disappeared immediately when it was extracted and the little patient was none the worse for the experience.

It is interesting to speculate as to what the ultimate course of the case might have been had the piece of shell passed down into the lungs instead of becoming lodged in the larynx. The father had brought the peanuts home late the previous night and the children got at them early the next morning before the parents were up. If the first symptoms had been slight or of short duration, the parents would have been unaware of the accident and there would have been no history whatever.

Quite often a foreign body that has been swallowed will pass on into the stomach after making an abrasion which renders swallowing painful and gives the patient cause to think that the offender is lodged, but it is never safe to conclude that such is the case without careful examination with Roentgen ray and esophagoscope. This also gives one a chance to treat such abrasion surgically as we should do if located elsewhere. This method is also of great advantage in the diagnosis and treatment of other pathological conditions, a few of which I will report in illustration.

7. Mrs. E. S. Aged 56. Referred by Dr. Felch, Feb. 2, 1910. Had difficulty in swallowing large pieces of food for fifteen years. Worse during the past three months so that now she can swallow nothing but liquids. Had pneumonia a year ago. Aside from this has always been well. This patient was very apprehensive and insisted on a general anesthetic. Under ether it was found that the entrance into the esophagus was filled by a new growth, evidently carcinoma. From the history of trouble in swallowing for fifteen years, one would suspect that the growth had originally been benign and if seen in the precancerous stage, the fatal outcome might have been avoided.

8. A. P. Aged 34. Came Nov. 29, 1910 complaining that she had swallowed a pin four days before and that it was still in her throat. A series of radiograms failed to show the pin in any part of the gastrointestinal tract. The esophagoscopic examination was equally negative so far as the pin was concerned, but a marked abrasion was found at the level of the cricoid on the right side. This was swabbed with a solution of silver nitrate. Thinking that the pin might have been dislodged by the passage of the esophagoscope, a careful examination of the stools was made for five days without discovery of the pin which had doubtless been passed during the four days previous to the examination. The

patient was in a highly nervous state and the thorough examination did much to reassure her.

When one has seen several women with fixed delusions in regards to the presence of pins in their throats, this is no small matter. Speaking of delusions reminds me of a case that was really amusing. I was called about 2 a. m. by a man who said that he had a tack in his throat. I was rather sleepy and in no mood for conversation so failed to inquire into the history, contenting myself with going after the tack with a view of getting back to bed again as quickly as possible. After considerable search I finally asked him how and when he swallowed the tack. The following conversation ensued: "I don't know. It happened while I was asleep."

"What were you doing with tacks in your mouth at night?"

"I didn't have any tacks in my mouth."

"Then what makes you think you have one in your throat?"

"I can feel it."

"But why do you say that it is a tack?"

"I know what a tack feels like don't I?"

"You do with your finger tips but not with your throat. All that you could say would be that you felt something sharp." What happened was probably this: He was lying on his back with his mouth open and the mucous on his pharyngeal wall became dry and glazed it over. Partially awaking, he swallowed, and it hurt him. In his half awakened state the sensation suggested the pricking of a tack, hence the delusion. If the patient had been a woman she would probably have been more apt to think of a pin. I wonder how many delusions start in somewhat the same manner. When I gave the above explanation to my patient, he accepted it readily and returned to his home perfectly satisfied. The throat seems capable of retaining impressions for an abnormal length of time and has a bad reputation as a site for abnormal sensations and neuroses that have no pathological basis. But no one is justified in surmising that such is the case. Since this locality has become more accessible and patients with vague symptoms of throat trouble are receiving more attention, many of them are found to be suffering with real pathological conditions. They are all deserving a careful examination, and before you label a case *globus hystericus*, be sure that it is not one of papillomatous tumor or beginning cancer.

9. Miss S. F. Aged 17. Came May 1, 1911 complaining of difficulty in swallowing off and on for

six months. She had taken no solids for two months and had lost twenty-six pounds in weight during that time. The trouble seemed to be at the upper end of her esophagus. She could not get solid food started down. There was no regurgitation of food. Whatever entered the gullet went on through. The examination of her pharynx was negative except for slightly enlarged tonsils. Under cocaine the esophagoscope was passed without difficulty after the constriction at the cricoid was overcome. Nothing whatever abnormal was found and a diagnosis of spasm of the upper end of the esophagus was made. Immediately after the examination she ate a full meal of meat and potatoes and had no trouble afterwards. A somewhat similar case was:

10. Miss P. V. Aged 15. I saw her in consultation with Dr. Felch April 16, 1914. She had been under treatment for some months for endocarditis with anasarca, having spent most of that time in bed. Compensation had become fairly established and she was now allowed to be up but had not regained her strength. During the past month she complained of a gradually increasing difficulty in swallowing until now she could swallow nothing but liquid and that with great difficulty. She was a well nourished smiling little girl, not at all such as I had expected to see from the account given me by her father. When I asked her to let me see her swallow water she said that she dreaded to do it as it hurt her. I finally prevailed on her to do so and it was a most interesting exhibition. She would take a small sip of water, hold it in her mouth for a time and then swallow it with great effort and repeated enormous gulps of air. At least she belched the air up again and the swallowing of that sip was accomplished. One would naturally expect to see a very serious condition present to cause symptoms of such magnitude. I had been assured that careful physical examinations by different men had been negative except for the valvular lesion of the heart, so I passed the esophagoscope without the least resistance or spasm of any kind. Here was evidently a paralysis instead of a stenosis, and from the general appearance of the patient. I suspected that it was hysteric, which it proved to be. Immediately following the examination I gave her some bread and butter. She started gulping again, but under moral suasion, she gradually desisted and ate normally. It seems almost too good to be true, but she had no further trouble in swallowing from that time on, until her death which I regret to say took place six months later.

Some objection was urged by medical friends to a diagnosis of hysteria at the time, apparently because she had heart disease, although they would not admit that endocarditis rendered one immune to hysteria. I believe them to have been troubled with what golfers call a "mental hazard." These doubts were expressed again when the patient died as her symptoms at the end became somewhat obscure. However, she had no further trouble with swallowing, which is to my mind conclusive. One should always

exhaust every effort at diagnosis before deciding on hysteria and remember that a patient with hysteria can also have an organic lesion, but, while not so important, it is well to realize that some of the symptoms in a gravely pathologic case may be due to hysteria and should receive adequate treatment.

11. E. J. B. Aged 49. Was referred Aug. 12, 1911. He had a crushing injury some months ago since which he had been coughing up blood. The physical signs and radiographs had been indefinite and I was asked to determine from which side the blood came. This was readily done by passing the bronchoscope into the trachea under cocaine anesthesia, when frothy blood could be seen coming from the left bronchus. As there was no question of a foreign body in this case, and fearing to aggravate the bleeding, nothing further was attempted. The examination was as satisfactory as had been expected.

12. H. H. Aged 51. Referred by Dr. G. G. Barnett May 12, 1912. Had pain and difficulty in swallowing gradually increasing for six months until now he could swallow nothing but liquids. Examination with the esophagoscope under cocaine carcinoma just below the level of the cricoid. As there was no evidence of induration, swabs with cocaine and adrenalin were introduced and the narrow lumen dilated with elastic bougies, enabling him to swallow much better. This was kept up for several weeks affording him much comfort.

12. E. M. Aged 44. Consulted me Dec. 19, 1912. He had a chronic cough with bloody sputum for several years and sometimes coughed up quite a lot of blood. He had been for a time in a tuberculosis sanitarium although the physical signs and bacteriological examinations were negative. He also had chronic endocarditis with dyspnea on exertion. No rise in temperature or night sweats. I was inclined to attribute his chronic bronchitis and hemoptysis entirely to the congestion due to his heart disease, but as he was anxious for me to examine his larynx, I did so by the direct method. When I passed the short tube through the glottis I was surprised to find an ulcer about the size of a dime on the right wall of the larynx just below the vocal cord. Under local treatment twice a week the ulcer healed in about two months. There was no longer blood in the sputum and the cough was somewhat less troublesome.

13. V. J. Aged 53. Was referred by Dr. P. Van Riper May 1, 1915. He complained of difficulty in swallowing solids. Can eat eggs and mashed potatoes without pain. Three weeks ago while eating beef stew and potatoes a piece of food got stuck apparently at the upper border of the sternum. Did not hurt much but alarmed him. Has had pain in the left side of the chest for three months. He coughs a good deal which hurts him under the left collar bone. Tender over the epigastrium. Has lost fifteen pounds in weight since last fall. Has not felt well all winter. No appetite and weak. In this case no radiogram was made as patient was from out of town and would not stay long enough to have it done. The examination with the esophagoscope

showed a very high colored mucous membrane, otherwise negative. A diagnosis of probable cancer of the stomach was suggested which proved to be correct. This case is mentioned simply to show how easy it is to exclude the esophagus and direct attention to the stomach in a doubtful case.

As I stated in the beginning this does not pretend to be anything but a report of personal experiences together with comments on the lessons to be learned from them. In closing I should like to emphasize a few points by repetition.

1. Always consider the possibility of the presence of a foreign body in any obscure lung condition or where there is difficulty in swallowing.

2. Every case in which there is difficulty in swallowing or where there are abnormal sensations should be examined at the earliest moment. Malignant disease of the esophagus is of comparatively slow growth and the work that has been done recently gives strong hopes that this heretofore absolutely fatal malady will be made to yield a fair percentage of cures if seen early.

3. Never attempt the removal of a foreign body without the aid of sight. There was a time when this was excusable. It is no longer so.

MESENTERIC CHYLOUS CYST.*

R. C. WINSLOW, M.D.

SAULT STE. MARIE, MICH.

I had thought of discussing Lane's kinks, Jackson membranes, constriction of the intestines by Meckel's diverticulum, chronic intestinal stasis, and allied conditions that might give practically the same symptoms as those produced by chylous cysts of the mesentery, which is the subject of this paper, but upon reflecting that cysts of the mesentery are not likely to be diagnosed until they come into view, it would seem quite unnecessary to include any of the above, as they could lend little or no assistance in making a differential diagnosis.

Chylous cysts of the mesentery are of interest, as we know, by reason of their rare occurrence. The International Text-book of Surgery, published in 1900, mentions that "nearly 100 cases of cysts of the omentum and mesentery have been reported;" and in 1913, at the time the case I am presenting to you was operated, A. L. Benedict, of Buffalo, reported that 96 cysts of the mesentery, of the chylous type, had

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been recorded. In a paper read by Edward G. Jones, before the Southern Surgical and Gynecological Association, at Ashville, North Carolina, December, 1914, three additional cases were reported, and Dr. Jones stated that "about 200 in all (of the chylous type) have now been recorded."

PATHOLOGY.

The pathogenesis of these cysts has not been satisfactorily determined, histological examinations of cysts contents and of tissues removed at time of operating having failed, so far, to disclose whether they are embryonic in character, (omphalo-mesenteric duct); or are due to degenerating lymph-glands, ruptured or dilated lymph-vessels; dilated lacteals; or whether they originate in the intestine or in the receptaculum chyli. This is unfortunate, as regards treatment, for a knowledge of their origin would aid in securing the best surgical results.

SYMPTOMS.

The symptoms produced by these cysts will depend to a great extent upon their location, number and size, together with the activity of the patient. The nearer the location approaches to the mesenteric border the greater will be the disturbance due to an interference with peristalsis, inhibition of the blood supply to the corresponding part of the gut, tendency to volvulus and kinks of the intestine, gradual occlusion of the bowel, the likelihood of the mass entering the inguinal canal (in case of hernia), and of causing vestical and rectal symptoms by dragging the intestine into the pelvic cavity.

The number of cases reported so far have given a fairly uniform and constant group of symptoms, of which, tenderness and pain in the abdomen, a sensation of weight or dragging on the intestines, seizures of acute abdominal pain that are speedily and entirely relieved by vomiting and free bowel movements, abdomen usually distended at the time of acute seizures of pain and nausea, impaired digestion with loss of appetite, together with a poor state of nutrition, should serve to direct our attention to the possibility of cysts of the mesentery as the causative factor, and the abdomen ought not to be closed until we have determined their presence or absence, providing that we do not find a pathological condition fully accounting for the symptoms present.

It was with the idea of impressing this clinical hint that I thought of presenting the following case:

CASE REPORT.

B. W., Male, Aged 11 years. Personal and family histories are negative.

History.—Present trouble began, so far as his parents are able to recall, when he was six years old. He would complain of pain in the stomach of a week or ten days' duration, at periods of one to two months' time, and there was soreness and tenderness of the abdomen all of the time. He would vomit a great deal when the attacks of pain were on and the parents thought he had a weak stomach. Constipation was present, gradually grew worse, and he was given castor oil, senna tea, and the usual household laxatives and purgatives. When nine years of age he began to complain that it troubled him constantly while sitting at school, and he would not join the other children in play. In sitting and standing he would always bend forward as if there was a weight in the abdomen, and the least running would precipitate the attacks of pain and vomiting. Vomiting and free purging of the bowels relieved the seizures for a little time. The attacks of acute pain nearly always occurred during the day time and he was troubled with excessive gas formation from the time the trouble first came on up to the day of operation, so that there were many articles of diet that the mother learned to withhold.

I had the case under observation for a month and drew the usual conclusion that the disturbance originated in the appendix, there had been a severe inflammatory process, and that the omentum was thickened and adherent to the intestines. He entered the hospital on September 14, 1913, and was operated the following morning.

Operation.—The incision was made through the right rectus abdominalis muscle and a normal appendix delivered and removed. Not finding any evidences of a previous pathological process in the appendiceal region, and a normal and free omentum presenting, I thought it best to look further for the cause of his distress. The incision was enlarged somewhat and a normal stomach and gallbladder palpated. Then the ilium was picked up and run through the fingers in search of a troublesome Meckel's diverticulum. This was not found, but at a point approximately three feet from the caecum a (unilocular) chylous cyst came into view. This cyst was about 3 x 6 inches in extent, and encroached to within a half inch of the mesenteric border.

No dilated lymph-glands were to be seen, and there was no apparent communication with the gut, nor elsewhere. The fluid was removed by making an incision in the upper layer of the sac and the redundant portion of this upper layer was cut away to within a quarter to a third of an inch of the point where it joined the opposite layer of peritoneum, reflected back upon and sutured to the mesentery with fine cat gut.

The sac contained about twelve to fourteen ounces of chyle, which, together with the portion of the cyst wall removed was thrown aside by a nurse, as we found when the operation was concluded. The sac wall had the appearance, both internally and externally, of slightly thickened peritoneum.

Post-Operative Course.—The patient made an uneventful recovery, and has been perfectly free of any abdominal trouble.

I was apprehensive as to the end results, having no precedent to follow in the disposition of the sac, and I do not know whether I did the scientifically correct thing in the care of the cyst, but we have had to regret only the loss of the specimens before an examination could be made.

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DISLOCATION OF THE SEMILUNAR.*

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Within the present year two notable articles have appeared on the subject of dislocation of the semilunar. One in the January number of *Surgery, Gynecology and Obstetrical* by Runyan of the Canal Zone and other by Murphy in his Clinics. Runyan reports six cases in 11,600 injuries; two of which were uncomplicated dislocations of the semilunar: two were complicated with fracture of the scaphoid, and two were complicated by a Colles' fracture.

Three of these were reduced by the closed treatment, of which two results were perfect and one poor. Two were reduced by the open method, one result being fair, the other poor. Three excisions resulted poorly in two instances and good in the other. His conclusions call for the removal of the semilunar where closed reduction is impossible.

Murphy states:

"It is surprising how little a disturbance follows the excision of the semilunar and how rapidly a joint previously almost immobilized by the dislocation of the flexor tendons and pressure on the median nerve assumes active, vigorous and well-nigh normal function."

Murphy's article is characteristic of him in general, remarkably lucid in his explanations of the mechanics of the production and reduction of this very disabling dislocation. He cites three cases of dislocation of the semilunar with fracture of the scaphoid and one case of pure dislocation of the semilunar.

My cases consist of one case of dislocation of the semilunar complicated with fracture of the scaphoid and two cases of uncomplicated dislo-

cation of the semilunar. As far as I am able to judge by going through records of accidents my experience coincides with Runyan's, that is, three cases in a little better than 5,000 accidents. Strange to say, however, the three cases occurred within four months of each other and I was inclined to suppose that I had been overlooking this particular dislocation.

However in the last year in spite of careful X-ray examination of all wrist injuries I have not met with any cases and therefore I am inclined to agree that they constitute as Murphy says about 3 or 4 per cent. of all injuries to the wrist joint, although in my cases in the last three years there are three semilunar dislocations, one semilunar fracture and eighteen Colles' fractures.

The mechanism of the production of this dislocation is very much the same as that producing Colles' fracture. Of course some are produced by direct violence to the carpal bones themselves, and also as in Case 1 of my cases the injury seems to have been produced by a sudden violent dorsal flexion. The history may possibly be wrong in this case, but I cannot doubt the patient's statement as he was a very intelligent man.

CASE 1. Mr. F., foreman in a lumber camp. In January, 1914 while walking on a slippery log, carrying an ax over his shoulder, his feet slipped from under him and in a sudden effort to regain his balance, the ax fell perpendicularly along his back, throwing the wrist into extreme extension. He felt something snap in his wrist and felt sharp pain. He treated the injury in camp as a sprained wrist for several days and finally came to the hospital.

The wrist failed to improve at all during the next three weeks, when he came to me for examination. X-Ray revealed the dislocated semilunar. The following day I tried forcible reduction with powerful hyper-extension and strong counter-pressure over the semilunar without results.

I advised excision of the bone to which he readily consented. The ultimate result is shown in the accompanying photograph taken six months after the operation. The patient states that he cannot notice any difference in strength or usefulness between his two wrists.

CASE 2. Mr. N. brought to my office by Dr. K. the spring of 1914. He had fallen from the top of a moving box-car striking upon his hands. He immediately felt that he had a severe sprain of the wrist. His physician brought him to me for X-ray diagnosis a few days after the injury. After talking over the reduction or removal of the dislocated semilunar and considering the ultimate poor functional result promised by expectant treatment his physician decided to send him in to the head surgeon of the railroad for treatment. After two months the man returned and I understand no extreme efforts had been made to correct the deformity.

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I succeeded in recently obtaining photographs of his wrist which show the serious deformity and incapacity this man suffers owing to the failure to remove his semilunar.

CASE 3. Mr. F., age 18; fell foremost from a tram striking on his wrist. Came to my office June 8, 1914 suffering from a severely "sprained wrist." X-ray examination revealed the semilunar together with the proximal fragment of the scaphoid dislocated forward at an angle of 90 degrees. At the time of the accident there was present in the office another patient who was a very powerful man. The boy was given an anesthetic and while I produced extreme extension of the wrist Mr. B. used his powerful thumbs to exert direct pressure backwards on the prominence of the semilunar. A sharp snappy flexion of the wrist during this counter-pressure resulted in immediate reduction of the dislocation. The restoration of function was almost perfect as the boy left the office after recovering from the anesthetic. It reminded me of the comfort resulting from reduction of a dislocation of the shoulder.

Now as regards the mechanism of the production of this dislocation I wish first to quote Murphy as briefly as possible:

"Why does the semilunar cling so closely to the forearm bones? It is because the anterior ligament binding it to the ulna and the radius, particularly the latter, is so much stronger than the ligamentous connections of the semilunar with the other bones of the carpus. The anterior ligament is much stronger than the posterior ligament, and when the latter is torn, as it frequently is in these dislocations, the usual integrity of the anterior ligament produces a characteristic and progressive alteration in the location of the dislocated bone.

The first stage of this carpal lesion is the production of a dorsal dislocation of the hand on the wrist, with the semilunar bone remaining *in loco*, that is, fastened to the radius and ulna by the anterior ligament, and less frequently, by the posterior also.

The second stage of the deformity is brought about only when the posterior radio-ulnar ligament has been ruptured, either by original injury or by efforts at reduction of the luxation. The anterior pole of the semilunar then remaining fixed, the posterior pole of the semilunar rotates forward about the anterior pole as an axis, the degree of rotation depending on the mechanical factors present tending to pull the hand forward and upward."

If I may be permitted I might venture another reason for the line of cleavage taking a course either around the semilunar or through the fractured scaphoid neck and semilunar os-magnum articulation.

In falling upon the wrist (we all have experienced it I am sure) we impinge upon the thenar and hypothenar eminences whose bases are respectively, on the one hand the tubercle of the trapezium and scaphoid and on the other hand the pisiform resting on the cuneiform.

Drawing a straight line from the tubercle of the scaphoid to the pisiform we find this line passes through the semilunar os-magnum articulation and the head of the scaphoid is on the proximal side of this line. Now we all know that when force is transmitted to the ground at an angle, the angle of incidence is equal to the angle of reflection, so that when falling upon the wrist the force is transmitted obliquely along the line including the radius and ulna, the semilunar and the head of the scaphoid on the one hand, centering the force on the pisiform and scaphoid eminences. The force is then reflected backward from the ground from these points carrying with them all the other carpal bones including the os-magnum the keystone of the arch which is driven back with such force that the posterior ligaments are torn.

The head of the scaphoid lying in the same line with the semilunar and within the capsule of the joint is also frequently cut off with the semilunar and driven downward and forward.

Of course the ligamentous connections of all the carpal bones play their part in the ultimate result of the force applied. The peculiar displacement whereby the semilunar is dislocated forward its posterior surface ultimately coming to lie anterior is caused by attempts at reduction which carry the loosened posterior surface forward while the anterior horn still remains bound to the anterior edge of the radius by the powerful anterior ligament.

DIAGNOSIS.

Of course the X-ray is now practically essential in making the diagnosis. However, there are three pronounced features about the dislocation of the semilunar, which when one is once acquainted with their appearance make the diagnosis comparatively easy.

1. Fullness in the quadrangle bounded by lines drawn from the scaphoid tubercle to the pisiform, from the pisiform to the ulnar styloid and from the ulnar styloid to the tip of the radius and from the tip of the radius back to the scaphoid tubercle, or as Murphy says, "between the two wrists folds."

2. Shortening of the carpus.

Measuring on the dorsal surface from the end of the radius to the proximal or distal end of the third metacarpal will show often a difference in the two hands of one centimeter. In recent cases however the swelling may discount this.

3. A distinct prominence of the dorsal surface in the region of the os-magnum. This is the head of the os-magnum, and is more prominent by reason of its actual elevation and also,



Case I. Semilunar removed. Recovery perfect.

a sinking in above it, owing to the absence of the semilunar.

4. The general position of the hand re-



Case II. Semilunar not removed. Result bad after one year.

sembles to some extent a Colles' "Silver Fork" deformity but not so prominent. A slight extension and a claw-like position of the fingers owing to the shortening of the flexor tendons by

the bulging semilunar is more characteristic.

As Murphy's and Runyan's articles are so available I will not take up your time with further study of the mechanics of these cases but I wish to call your attention to these two sets of photographs.

In the first you see Case 1 six months after excision of the semilunar (done one month after the accident). He has perfect function as you see and is quite pleased with the result which I assure you is as good as it looks.

The other case is an object lesson. He has his semilunar in a position strategic for evil, interfering with the function of eleven tendons and the median nerve, which supplies three thumb muscles, the flexor brevis pollicis, the abductor pollicis, the opponens pollicis and the outer two lumbricals besides giving off sensory branches.

It also mechanically interferes with the flexion of the hand on the forearm, thus partially nullifying the great and important flexors of the forearm.

GENERAL PARESIS OF THE INSANE.*

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The object of this paper is to discuss briefly general paresis, with special reference to the early symptoms, the necessity of making an early diagnosis, and some of the features relative to the later forms of treatments.

That syphilis is the causative factor is no longer questioned, and it is practically conceded that "no syphilis, no paresis."

About 8 per cent. of the admissions to the Newberry State Hospital, are classified as paresis, and for a period of ten years, ending June 30, 1915, 25 per cent. of the deaths in that institution were attributed to that cause.

It is true that only a small per cent. of syphilitic individuals develop paresis, yet the frequency of it makes one think of the need of prophylactic measures. Just what step should or can be taken in this line, is a problem faced with innumerable difficulties and time will not permit its discussion here.

Wile has shown that the nervous system is involved as early as the secondary and probably in the primary stage of syphilis, and it is at this stage that the vigorous treatment should be urged.

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The cases of paresis admitted to state hospitals, are usually too far advanced to be sufficiently benefitted to be able to return to their homes and successfully carry on their business, therefore the importance of a very early diagnosis, cannot be estimated and it is only the very early cases that will show any marked response to treatment.

The early symptoms of paresis present a multiplicity of minor disorders both mental and physical and may vary widely in the same patient from month to month. Attempts have been made to create anatomical subdivisions, but have proven in a measure fruitless.

The erection of clinical types is somewhat more encouraging.

Kraepelin recognizes the following types:

1. Simple dementing types.
2. Simple depressed types.
3. Expansive types.
4. Agitated types.
5. Irregular types with localized symptoms Lissam tabo-paretic form.
6. Juvenile paresis.

As has been said, symptoms of early paresis are widely diversified. A fainting attack is often the first symptom that attracts the attention of the patient or his family; absent-mindedness, inattention, forgetfulness of important facts becomes apparent. Some have periods of dreamy consciousness as though in a mildly intoxicated state. A dull, heavy headache is frequently present, cutaneous sensibility of often perverted sharp pains, numbness, itching, etc. Motor inco-ordinations from initial trembling to well developed ataxias, apraxias, Romberg, etc. are common. Speech disorders from a mild slurring or drawling speech to a complete aphasia are present in a majority of cases. Often times this is the first symptoms complained of.

The tendon reflexes are usually involved early in the disease, more often increased, but sometimes diminished or completely lost.

Pupillary disturbances are present in a great majority of the cases, irregular in about 75 per cent., Argyl-Robertson 50 to 70 per cent., unequal 50 to 75 per cent. These symptoms may change from time to time even without treatment. Loss of the consensual reflex is often one of the earliest, and at the same time, one of the most persistent of the pupillary anomalies.

As the disease progresses, symptoms become proportionately more aggravated and necessarily more noticeable.

The memory shows gross defects and the patients forget recent happenings not knowing what transpired a week ago, yesterday, and sometimes a half hour ago. Along with this, there is an impoverishment of ideas, loss of judgment and delusion formation.

The delusions vary immensely; they are usually senseless and fantastic.

Patients think in millions, billions, quadrillions, etc. They are princes, kings, emperors, priests, gods and super-gods. They have rubies, pearls, diamonds and a dozen wives, etc.

One can at times, by talking to these patients, contract or expand their delusional exuberance at will. Character altercations are predominant. Will-power is progressively lost, instability and fool-hardiness alternating with obstinacy and perverseness. Criminal actions may be committed as in the case of the paretic who shot at Major Gaynor of New York, and sexual misdemeanors are extremely prevalent.

FORMS.

To return now to the subject of forms:

The dementing form is characterized by a progressive mental deterioration with motor paralysis. Excitement and extravagant delusions are not prominent and if present at all, are transitory.

The course is steadily progressive and usually produces death in a relatively short time.

The depressed form is characterized by anxious depression. These patients have hypochondriacal ideas, somatic delusions, complain of bodily discomfort and are apprehensive. They sometimes have ideas of persecution, auditory hallucinations and may attempt to mutilate themselves or commit suicide.

The expansive type or classical type, make up about 25 or 30 per cent. of all cases of paresis. It is in this type that the expensive delusions are seen. At first the ideas are those of great exaltation within the bounds of normal human experiences, but soon the patient looses his earthly bonds and soars to super-human unrealities. His strength is appalling, his education superior to any other in the world, he speaks all languages, has all wealth, all power, his figures mount from thousands to millions to pages of figures. His mood is happy and he is overflowing with good deeds and generosity.

The agitated forms show a great motor activity. The restlessness is marked and the course is usually rapidly fatal.

The irregular types are not so frequent, they usually show some form of paralysis, hemiplegia,

monoplegia and sometimes the onset is not unlike tabes.

Juvenile paresis is quite distinct. The child may develop normally until 5 or 10 ten years of age, then his mentality seems to drop and gradually dementia appears. They may develop epileptiform convulsions. Many of this class are gathered into almshouse and epileptic colonies where they usually deteriorate and die within three or four years.

COURSE.

The average course of the disease is about two or three years. Probably 50 per cent. die within two years of the onset.

The pathology consists principally of atrophy of the cortex, usually in the frontal lobes, deposit of plasma cells around the smaller bloodvessels. New bloodvessels may be formed in the pia and upper layers of the cortex. The ventricles are usually dilated, the ependyma being swollen and rich in neuroglia undergoing hyaline degenerations.

TREATMENT.

The treatment of paresis, unless very early in the disease is indeed discouraging. The fact that the spirochete pallida are known to exist and thrive in the brain tissue is no longer questioned, and has been demonstrated by a number of investigators, the specimens having been taken from the brains of living paretics and examined by dark ground illumination. Since this is an undisputed fact, we are again confronted with the task of getting medication in contact with the affected areas. More recent opinions do not specially favor intraspinal or intradural therapy. The injection of salvarsan directly into the spinal canal, has proven too severe and has been followed in a number of instances with bad results. The intradural injection of very small doses of salvarsan, frequently repeated, has in some instances, been followed by marked improvement of symptoms.

The intravenous injections of salvarsan probably is followed by just as good results, and is far less dangerous. The technic is less difficult and arsenic has been demonstrated in the spinal fluid following this procedure. This method is probably the one of choice at the present time.

Mercury is still given an important place in the treatment of paresis. The emunctories are probably preferable. Mercury succinimide intramuscularly, is also one of the best methods of administration.

As yet we have no cure for paresis. Very

early cases may be in some instances arrested by vigorous treatment. Other cases will progress steadily in spite of the most vigorous medication and while the recent methods are probably a step forward, we are still more or less helpless in treating a mental disorder when the foe proves to be the spirochete pallida.

USEFULNESS OF THE STATE HOSPITAL.*

E. H. CAMPBELL, M.D.

Medical Director, Newberry State Hospital.

NEWBERRY, MICH.

I am quite sure that the method of management of the institution, as well as the work, is not understood by the public as fully as it should be. The fault for this may lie, to a great extent, with those who are connected with the state hospital—possibly through a sense of timidity, or to the feeling that what we may have to present might not interest others very greatly.

The insane hospitals of this state act under the authority given by the so-called insanity law—Act 217, Public Acts of 1903. This act confers practically the entire authority upon the local boards of trustees. Each board consists of six members who are appointed by the Governor, with the consent of the Senate, for terms of six years. These appointments are so arranged that every two years the terms of two of the members expire. This is a very wise provision, because I feel that it has been, to a very great extent, responsible for the absence of politics in the conduct of the hospitals. Occasionally, of late years, we hear considerable in reference to other methods of control—more particularly the central board idea. By this is meant, that all public institutions of the state, or in a more limited sense, institutions of a like character are controlled by one central board. Theoretically, this central board may possess some advantages, but, practically, it is quite evident that it would mean throwing these institutions open to politicians.

As it is now, our various boards meet in joint session twice each year, and there is considerable centralization of policies. The purchasing agents of the state institutions meet in joint session every sixty days, at which time joint purchases are made for all institutions. Last

*Read at the Annual Meeting Upper Peninsula Medical Society, Sault Ste. Marie, August 4-5, 1915.

year, for instance, the purchase made jointly, by the stewards, aggregated better than one-half million dollars.

Considerable centralization of the medical policies is also provided by quarterly meetings of the medical superintendents of the several state hospitals. Consequently, I rather feel that we have pretty nearly all of the theoretical advantages of centralization without the excessive cost, or the dangers of politics.

While the framers of this act were wise, so far as purely administrative matters are concerned, yet it does not seem that the same judgment was used when they attempted to lay down laws for the admission of insane persons to our state hospitals. Just why it becomes necessary to go through a process of law to admit a sick person to a state hospital is not entirely clear. It may be possible that when one is deprived of their liberty it should be done through some legal machinery, and yet the details of this procedure should be as simple as possible. Many times it appears that the legal rights of an individual are so carefully guarded that his rights, as a patient, are overlooked. Many times, undoubtedly, the individual rights, as a patient, are much more important to his future welfare than his legal rights as a citizen.

I recall many instances of the absurdity of legal procedure in the commitment of insane persons to the hospital. For instance, some years ago a rather prominent man in one of the cities of this peninsula became insane. He was sent to the Newberry State Hospital on a temporary order of commitment. He obtained legal advice and was informed, if he so desired, he could demand a jury to determine whether or not he was insane. It would seem almost as sensible for one of your patients to demand a jury to determine whether or not your diagnosis of his physical ailments was correct. This man remained with us a few weeks, on the temporary commitment, and was then returned to his home county. He was, at that time, actively insane, had a great many maniacal tendencies and, while not a dangerous man to be at large, it would only be a matter of a short time before he would come into conflict with the law. The jury, after hearing various testimony, and listening to some so-called expert testimony, decided that the man was sane and ordered him discharged from custody. He was now in a mild maniacal state, egotistical, talkative, and full of ideas of his own powers. He campaigned, for a time, for one of the candidates for Governor. Later in the year he went to Germany

and remained there some months. He was arrested a number of times while in Germany, and was also confined, for some weeks, in a psychopathic hospital. He returned to this country by steerage, and upon his arrival in New York telegraphed his relatives for funds to get home. This money was sent to him, but before he arrived at his destination he was arrested in Chicago, and eventually was returned to the Newberry State Hospital. There is no doubt but that all the anxiety, expense, as well as the prolongation of this man's mental trouble could have been avoided had he been promptly admitted to the state hospital, and detained there until such time as he was better able to control himself.

The rate of recovery at the Newberry State Hospital, for a number of years past, has averaged about 20 per cent. of the first admissions. Notwithstanding the increased knowledge which we possess in reference to mental diseases, and the greater improvement in the care and treatment which is given in recent years, the rate of recovery has not markedly increased.

It now seems that efforts should be attempted outside of the institution. No matter whether we wish to accept the theory that all mental diseases are due to actual physical causes of some sort; whether they are due to toxins; to disturbances of the ductless glands, or whether we ascribe to the theory that mental diseases are purely functional derangements without, we might say, a physical basis, it is still clear that the earlier we place these persons under proper treatment the better the results we will obtain. With this in view, the last legislature passed an act, to take effect the latter part of this month, authorizing the State Hospitals to receive voluntary public patients in the same manner in which voluntary private patients have been received. This means that in order to come to the hospital for treatment no complicated legal measures of commitment will be necessary. The act has a disadvantage, however, in that should these people wish to leave the institution, they may do so at any time after giving notice to the medical superintendent. However, it appears to me that there must be, in this community, a considerable number of persons who are in the early stages of mental disease and should, if they are properly advised, come to the hospital under this authority. During the last few years we have received a considerable number of private patients in this manner and, while we have not fully succeeded in pleasing all who came, a ma-

majority of them were satisfied and returned home improved. Now, whether or not this procedure will greatly increase the rate I do not know, but it does seem reasonable, reasoning from the analogy of the effect of earlier treatment of physical diseases, that something might be accomplished. I am quite sure that in medical matters, such as this, the general practitioner moulds, to a great extent, the opinion of his community, and if such a departure as this becomes successful, it should receive the approval of the practitioners of this district. I rather feel that we will have an opportunity to test out much earlier the treatment of neurotic individuals. Along this line of the prevention of mental troubles lie the very prominent factors of alcohol and syphilis. The admission rate of purely alcoholic mental disease, at the Newberry State Hospital, is in the neighborhood of 6 per cent. of the admissions. This does not include the large number of other persons in whom alcohol may not have been the sole factor, but one of many factors in the production of their mental trouble. Syphilis is the sole cause in from 8 to 10 per cent. of our admissions. We have, during the past two years, examined the blood of every person admitted to the hospital, for syphilis by the Wassermann test. This is now a routine procedure, and syphilis has been found to be present in better than 14 per cent. of the admissions. Without doubt, these causes are preventable, and it seems possible that, through education, the future will see very little of these causes.

The number of those discharged as recovered from the Newberry State Hospital, last year, is about 15 per cent. of the total number of admissions. The state has, at this time, no legal machinery whereby these persons can be looked after, at all, after their discharge from the hospital, and it is quite evident that if the same cause which precipitated the initial breakdown became active the disease will recur. Some of the eastern states have bodies of workers which are called aftercare societies. These societies employ men and women trained especially along this line of work to look after, and supervise as well as they can, the welfare of discharged patients. Possibly the home conditions are improved. Many times the associates of his home community are not the best, and yet, unaided, the discharged patient is unable to secure employment under better condi-

tions. These societies attempt to care for all of these things.

In addition to those discharged recovered, a great many leave the hospital who are recorded as improved patients. These patients have passed through the acuteness of their mental disease. They have, to a considerable extent, readjusted their ideas and are able to get along within the hospital with a large degree of comfort. So far as the hospital is concerned, little else can be done for them, aside from giving custodial care. It does seem that when this period is reached they should be discharged and be given a trial outside and an attempt to again become self-supporting citizens. Many of them remain away from the hospital and do support themselves and families. Some may be regarded as somewhat eccentric persons in the community in which they live, but they are self-sustaining citizens. A considerable larger number, however, are unable to again successfully enter into the competition of life. The readjustments which they have made, within the hospital, break down and they again become delusional insane persons, making their re-commitment to the hospital necessary. It is very probable that among this class of persons, considerable good might be done by the establishment of certain societies, or certain methods whereby the protection which is given them in the hospital could be carried on, to a certain extent, outside.

An attempt was made, at the last session of the legislature, to pass an act along this line. It was felt, however, that the initial expense of establishing a totally new organization would be so great as to defeat the bill, so a compromise bill was drawn up so that the various county officers of the state board of corrections and charities would perform the work. That is, upon the discharge of a patient the probate court would be notified of such discharge, the patient's conditions, and then through the county agent the probate court would attempt to remove whatever causes would tend to bring about a recurrence of the disease. The legislature, however, did not look with much favor upon this scheme and the bill was not passed. That, however, is only a temporary setback, because in time all these agencies will be working towards the prevention of mental disease. Eventually it will be borne in upon those in power that economy lies along these lines.

REPORT OF CASE—CLINICAL THERMOMETER IN THE BLADDER.

R. H. CRISSEY, M.D.

LANSING, MICH.

A very interesting but somewhat unusual case was referred to us with a history of losing a clinical thermometer while taking a supposedly vaginal temperature.

History.—A young woman, about 25 years old, while taking her temperature, placed the instrument *in situ* rather blindly and when she came to remove it, the instrument could not be found. It was at once reported, and the physician, thinking that it had slipped into the vagina beyond the patient's reach, made a vaginal examination but could find no trace of it. However, in rotating his finger anteriorly, he accidentally felt the instrument through the anterior vaginal wall.

Examination.—She was at once brought to the Hospital and, after toilet of the vulva, a Brown Buerger cystoscope was passed into the bladder locating the instrument in a transverse position, the ends being covered with the mucous membrane of the bladder. The patient was then placed in the knee-chest position and a Kelly Direct Vision cystoscope was passed into the bladder, but on account of the highly irritable condition of the bladder, causing violent contractions, further manipulations were abandoned.

Treatment.—Patient was put to bed; hyosin and morphine given, and after a few hours another

attempt was made to remove the instrument. It was seized through the Kelly cystoscope with a pair of allegator forceps and turned to sagittal position. The cystoscope was then carefully slid down over the top of the thermometer until the end was reached, and accidentally the end of the instrument became engaged in the cystoscope which was immediately shoved down into the bladder over it. By means of the allegator forceps the thermometer was then easily recovered.

The reason that this case is reported is to warn against the indiscriminate use of vaginal temperature, and more especially in allowing patients to take this temperature themselves. We can easily see how this accident occurred. While in a prone position the patient merely slid the thermometer from above downwards, supposedly into the vagina, but same became engaged in the urethra.

This seems to be a rather dangerous procedure especially in virgins and also in women whose urethra is large. We believe that a vaginal temperature is in all but rare cases uncalled for, as a rectal temperature is just as reliable. Where a vaginal temperature must be resorted to, it should be taken by a physician or nurse and under no circumstances should the patient be allowed to place the instrument. The labia should be separated and the instrument placed into the vagina under direct guidance of the eye and never placed blindly.

*The Value of Your Membership
in Your County Medical Society will be
determined by the amount of
interest you personally
manifest in its
activities*

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, June 9, 1915

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

DIAGNOSIS AND TREATMENT OF PEP-
TIC ULCER.

HARRY B. SCHMIDT, M.D.
(From the Medical Clinic, University Hospital, Ann Arbor,
Michigan.)

The material for this paper is based upon the case records of 146 patients who entered the Medical clinic of the University Hospital during the five years from July 1, 1908 to July 1, 1913, and who were believed at the time to be suffering from peptic ulcer. Of the 146 cases, 95 per cent. came from the State of Michigan.

Sex.—Of the 146 cases, 119 were males or 82 per cent. of the total. During this time 56 per cent. of the total number of patients entering the wards of the Medical clinic were males, thus showing the usual preponderance of gastric ulcer in the male sex as has been demonstrated by most of the recent statistics.

Occupation.—It is of interest to note that of the male patients admitted with a diagnosis of peptic ulcer over 50 per cent. were farmers. Of the total male patients coming to the University Hospital during the first three or five years here considered, only 23 per cent. were farmers or if we omit the University students and those under ten years of age, about 30 per cent. were farmers. It seems probable from these statistics that farmers suffer from peptic ulcer at least as frequently and probably more frequently than do those following other occupations.

Age—

Age not given	1
10 to 20 years	1
20 to 30 years	34
30 to 40 years	39

40 to 50 years	32
50 to 60 years	24
60 to 70 years	15

The largest proportion of cases were between the ages of 20 and 50 years, but if due regard be given to the decreasing number of living individuals beyond this age, the proportion is also relatively high in latter life.

Symptoms.—The most frequent and important symptom of gastric ulcer is pain. Of these patients 118 or 80 per cent. complained of definite pain in the epigastrium and eleven or 7.5 per cent. complained only of distress. Of those who complained of pain, twenty-two or 15 per cent. were affected immediately after eating or within one hour, while eighty-nine or 61.3 per cent. suffered between two and four hours after eating. In seven there was no definite relation between the pain and the taking of food. This seemed particularly apt to occur in patients who had local peritonitis with adhesions in the upper abdomen. In fifty-two patients or 35.5 per cent. the pains were relieved by eating.

Second in importance to pain as a symptom was vomiting, forty-five patients or 31 per cent. having a history of vomiting. Of these the vomiting was the sole symptom in four. Twenty-eight patients had vomited blood at one time or another and eight of these came to the Hospital solely on account of hematemesis. In addition five patients had a history of coffee ground vomitus.

Duration.—Of those who gave a definite history as to duration thirty-six or 24.6 per cent. had suffered from one to two years, twenty-nine or 19.8 per cent. from three to five years, and fifty-nine or 40.4 per cent. from five to thirty years. Eight patients had a history of less

than two months' duration. In several of these the symptoms began with severe hematemesis. One patient who was operated upon after such a history of two weeks, showed no ulcer, but numerous dilated veins in the stomach without apparent cause such as an enlarged spleen or cirrhosis of the liver. This patient is in good health five years after operation. One patient who gave a history of five weeks' duration died in the Hospital of perforation and at autopsy a perforated duodenal ulcer was found.

Physical Examination.—With the exception of the evidence of anemia in patients who had history of bleeding, and the emaciation in those who had been unable to eat on account of pain or vomiting, the general physical examination usually showed relatively little. Not infrequently the upper abdomen showed some tenderness on palpation, particularly in the right quadrant. A tender spot in the left back was looked for in a number of patients but was very rarely found. In a small proportion of those with pyloric obstruction, the movements of dilated stomach were noted but as a rule evidence of pyloric obstruction was obtained from gastric analyses. In seven patients a definite mass was palpable, but of these four were shown at operation to be suffering from carcinoma and two subsequently died with symptoms of cancer.

Gastric Analyses.—Gastric analyses were made in 127 of the patients. It was omitted in patients having a recent history of hemorrhage. Of these 127 patients, eight or 62.9 per cent. had a hyperchlorhydria. There seemed to be a definite relation between the severity of the pain and the degree of acidity and these patients as a class were the ones that suffered most severely. In twenty-seven patients or 25.3 per cent. the gastric acidity was normal. In two patients there was a hypoacidity and in eighteen the acidity was variable. Of the 127 patients with gastric analyses, fifty-seven or 45.8 per cent. showed excessive quantities of stomach contents on a test meal and of these about half showed yeasts and sarcines. No Oppler Boas bacilli nor lactic acid was discovered in any of the patients. Of the sixty-seven patients with retention forty showed evidence of severe pyloric obstruction. These patients as a rule had 500 cubic centimeters or more in the stomach after a test breakfast, and frequently gave a history of vomiting material eaten on the day before. Such patients were immediately advised to undergo an operation. Six of these cases ultimately proved to be carcinomatous, a

fact which was suspected at the time of examination.

Stools.—Sixty-nine patients, 47.7 per cent. gave a history of tarry stools. A positive test for occult blood was found in ninety-four or 64 per cent. of the cases.

Operative Treatment.—Operation was advised in all patients showing a definite pyloric stenosis, and in every case operated upon a gastroenterostomy was performed. In such cases the results were most gratifying. Patients were able to eat freely, regained their lost weight and went back to work. Of sixty patients operated upon at the University Hospital, two died shortly after the operation and another died with symptoms of perforation two years later. One patient who was operated upon for intestinal hemorrhage had a recurrence of the hemorrhage after two years, was given the Lenhardt's treatment and has been well since. Patients who have failed to improve under medical treatment, have also been operated upon, but the beneficial results in this class of cases is not so striking as when there is a pyloric obstruction.

Medical Treatment.—Twenty-six cases were treated by the Lenhardt's method. Of these seven failed to improve and all of these but one were operated upon. One had no ulcer at operation and the hemorrhages came from dilated gastric veins. Of the nineteen who improved, sixteen are known to have been completely cured. One died of perforation eighteen months after treatment and three have relapsed. One was operated for duodenal ulcer and is well one year later.

Diagnosis.—Gastric ulcer is rare before the age of twenty and in our experience the symptoms which arouse a suspicion of gastric ulcer in the young are most frequently due to some other condition and particularly to a chronic appendicitis. In making a diagnosis, the history is of great importance, particularly when pain, which bears a definite relation to meals is present. This may occur from one to two hours after eating or it may be the so-called hunger pain which is relieved by the taking of food. Second in frequency among the symptoms is vomiting. When there is a history of acute hematemesis or tarry stools, the diagnosis is rendered more probable, but the other causes of these conditions should be carefully considered. A normal or subnormal acidity does not rule out ulcer. Definite tests for occult blood in the stools is very significant and probably occurs in most patients at some

time during their illness. Doubtful tests for occult blood have little value. We agree with Moynihan that in the majority of all cases, a diagnosis of ulcer can be made from the history alone. Gastric analyses are of particular value in demonstrating retention.

Differential Diagnosis.—The differential diagnosis of gastric ulcer must be made most frequently with reference to disease of the gallbladder and chronic appendicitis. These like ulcer may be associated with gastric hyperacidity. They may cause pain and spasm of the pylorus and they may produce a local peritonitis similar to that which not infrequently accompanies ulcer. The occurrence of pain in attacks of short duration with intervals of freedom from symptoms particularly in the early stages of the disease are of considerable value in such cases, but we have found in several instances that patients who failed to improve on the Lenhardt treatment, showed gallbladder disease or appendicitis at operation. It is in such cases particularly that the Lenhardt's treatment is of diagnostic value, for uncomplicated cases of gastric ulcer nearly always improve under it.

Ten of the patients here reported were suspected of having gastric carcinoma and of these eight showed carcinoma either at operation or in the later history. In all of these cases, there was a normal or increased gastric acidity and in some at least the carcinoma probably developed on an old ulcer. A diagnosis of such cases of carcinoma is always difficult. A palpable mass, though possible as a result of an ulcer, always favors the diagnosis of cancer. A rapid downward progress within a few months or a couple of years, that cannot readily be accounted for by a recent stenosis or hemorrhage also favors cancer. We are unable to say how frequently cancer develops on the base of an old ulcer, but the majority of our patients with cancer, have given no previous history suggesting ulcer; and the majority of those who have been diagnosed as having ulcer without a question as to cancer have not up to the present developed malignancy.

Occasionally gastric crises have lead to the diagnosis of ulcer but the diagnosis can usually be made and was made so far as we know in the present series of cases by a careful neural examination. It is important, however, that this possibility be borne constantly in mind when examining patients having peptic ulcer.

A profuse gastric hemorrhage is most frequently due to gastric ulcer. It may be the

first manifestation and in such cases particularly other possibilities such as cirrhosis of the liver and splenic anemia should be borne in mind. One of the patients in the present series was operated upon and no cause for the hemorrhage was found except for dilated gastric veins. We have recently seen a similar case in this clinic.

X-ray Examination.—In the present series of cases, no X-ray examinations were made. Our more recent experience, however, indicates that the X-ray examination is of decided value in cases of suspected ulcer, but that, like the other findings, it must be taken in conjunction with the whole clinical aspect of the case.

Treatment.—The Lenhardt's treatment should be used in properly selected cases. A certain proportion of patients are cured by this method. If the patient does not improve on the diet, one should suspect gallbladder disease, chronic appendicitis, or adhesions complicating the ulcer, and such cases should be considered in reference to operation. Patients with a single profuse hemorrhage should not be operated upon. They usually recover under strict rest and a complete cure may be obtained by medical treatment. One of our patients had a recurrence of the hemorrhage two years after operation. If the patient has a recurrence of the hemorrhage after having taken the Lenhardt treatment, operation may be advised, but in such a case, the ulcer should, if possible, be removed. Operation should be advised immediately when there is a marked degree of pyloric stenosis. It should be advised, even though carcinoma is suspected, but not proven. It is indicated furthermore when the patient fails to improve on Lenhardt's diet, or when recurrences occur after one or more rigid courses of ulcer treatment.

Ambulatory Treatment.—When a fairly definite diagnosis of gastric ulcer can be made, either from the history, or the chemical and X-ray examination, the patient should be advised either to take a prolonged course of medical treatment in bed or to have an operation. In some cases where the diagnosis is suspected but not certain or where the patient refuses more energetic treatment, ambulatory treatment may be tried. Under such circumstances the diet should be restricted to liquid, soft or finely divided food. The gastric acidity may be neutralized by magnesia or soda. We have had practically no experience with the systematic use of such remedies as bismuth, ox-bile, etc.

DISCUSSION.

DR. WALTER A. HOYT: It certainly is very interesting to see the results of gastric ulcer. Dr. Schmidt has followed up so carefully. Of special interest is the choice of operation in the treatment of ulcer. In the Surgical clinic practically all of these patients with gastric ulcer have had gastroenterostomy performed. In certain large clinics it is recommended that every case of ulcer should be excised and pylorotomy performed. I defy them to set forth their results where routine pylorotomy has been done and compare them with Dr. Schmidt's series. There is no doubt that the mortality from pylorotomy is much higher than the failure and deaths following simple gastroenterostomy. The technic is much more difficult, the operation takes more time and the mortality is much higher. The custom in the Surgical clinic is to remove all suspicious ulcers; and it has been shown that practically all ulcers which look suspicious and have been removed have proved to be beginning carcinoma. On the other hand, it can be seen from this series that the majority of these cases have not developed carcinoma, and that a man of good surgical judgment can differentiate fairly well between a gastric ulcer and carcinoma. In the case of the larger ulcers upon the different curvatures of the stomach, the so-called hour glass stomach, it is practically necessary to excise the lesion, but the mortality is not nearly so high as in pylorotomy. I would like to ask Dr. Schmidt his opinion of the value of the X-ray in making a diagnosis in these cases. We have found also in following up these cases, that the difficulty lies in making a diagnosis between trouble with the gallbladder, appendicitis and ulcer; and I certainly think this differentiation of hyperacidity and symptoms of gastric ulcer in young adults below twenty is carefully considered, because this has been found in many of the patients we have operated upon.

DR. HOWARD H. CUMMINGS: At Dr. Hewlett's suggestion we have used ox-bile in the treatment of students having signs and symptoms of gastric ulcer. In all, six patients have been treated, and four showed marked improvement and were able to take food without distress. The last patient treated is in the Hospital now. He gave a typical history of gastric ulcer, and this was confirmed in the Medical clinic. During the holidays he was put on the Lenhardt diet and showed marked improvement. However, about three weeks later he had a severe attack, epigastric pain, and many signs of appendicitis. At operation a gastric ulcer was found and a subacute appendicitis.

DR. SCHMIDT: In regard to carcinoma and ulcer, I think the work of the Surgical clinic for the last twelve years is rather interesting. Gastroenterostomy has been performed in every case of ulcer and we have yet to find a subsequent case of carcinoma of the stomach.

One patient in this series of sixty went to the Mayos and was operated upon later for the same old complaint. They found that the old ulcer had healed but there was present an old chronic appendicitis.

DR. WALTER A. HOYT: In the old thickened ulcers, did you advise medical treatment?

DR. SCHMIDT: Of course we have no way of telling, except from the history, how thick or old the ulcer is. If a patient comes into the Hospital and we can find no history of perforation or of continuous pain, we put him on a Lenhardt's treatment. A patient with ulcer will react within five or six days. If he is not relieved completely in that time, operation is advised, because in a majority of such cases he has adhesions that will not heal, or has chronic appendicitis or gallbladder disease. We always advise such patients to take medical treatment first.

REPORT OF A CASE OF SQUAMOUS CELLED CARCINOMA OF THE SKIN FOLLOWING EMPYEMA.

WALTER A. HOYT, M.D.

(From the Surgical Clinic, University Hospital, Ann Arbor, Michigan.)

The following case is presented for your consideration because of the unusual termination, twenty-three years following the original trouble.

William P., married, age 33, Pontiac, Michigan, entered the University Hospital on Feb. 10, 1915.

Complaint.—The patient comes to the Hospital because of a discharging sinus in the left pleural cavity in the region of the sixth intercostal space.

Family History.—Negative. No tuberculosis in the family.

Personal History.—Negative except for measles at the age of eight. Following this patient "caught cold," and developed an empyema of the left pleural cavity. At this time drainage was established in the region of the seventh rib, and two drainage tubes were inserted. A few days later the dressings were removed and thrown into the stove. Examination of the wound directly following this showed that both tubes had disappeared. For some time it was not known whether the tubes had been destroyed in the dressings or were in the pleural cavity. One week later one tube was removed from the pleural cavity. Three years following the first operation, the sinus closed spontaneously, and the patient then had no further trouble for twenty-three years.

Present Trouble.—Three months before entering the Hospital the patient consulted his home physician because of loss of weight, dyspnea, and the reopening of the old sinus. Up to this time the patient had been entirely well.

Because of the reappearance of the sinus and because of the recent symptoms, the patient was operated upon by his home doctor and a resection of the seventh rib performed. The operator encountered a mass of new tissue, which was very vascular, and in which was found one of the old drainage tubes. This drainage tube was removed, but because of the severe hemorrhage the wound was packed and nothing further attempted. This newly formed tissue began to increase and there was a rapid involvement of the skin surrounding the sinus. Three months later the patient entered the University Hospital. Examination at this time showed great emaciation and anemia. Local examination of the chest showed a sinus in the region of the seventh rib, with marked proliferation of tissue, covering an area about two and a half inches in diameter. This was nodular in character, ulcerating and raised about one-quarter inch above the surrounding skin, and extending through the sinus into the pleural cavity. Examination of the left lung showed evidence of a solid mass extending up to about the third rib. The breath sounds were markedly diminished, and all signs of percussion from below were present. The condition suggested at once two possibilities, either malignancy, or actinomycosis. The patient was operated upon February 11, 1915 under ether anesthesia, at which time it was possible to determine more carefully the amount of involvement. The sinus was found about one inch in diameter extending backward and downward into a cavity, which was almost completely filled with tissue of the same character as found in the neighborhood of the opening. It was so vascular and such severe hemorrhage was encountered that the cautery was finally resorted to and a large mass of the tissue removed. The pathologist submitted the following report: "Horny squamous cell carcinoma of the skin."

The wound was packed with gauze, and the patient returned home in one week. A letter from his physician a few days ago states that the patient died on March 1, 1915 of cachexia, and embarrassment of respiration.

This case is of especial interest because of the occurrence of a squamous cell carcinoma, arising from the pleural cavity. Primary squamous cell carcinoma arising in the pleural cavity can only be accounted for in one or two ways. First, in a bronchitic abscess. This is usually brought about by a metaplasia of the ciliated columnar bronchial cells into squamous cells. Very few cases of this condition have been re-

ported. This does not appear to be a feasible explanation of this condition. The second possibility would be direct extension from the skin, and this could be explained in this case upon the following hypothesis: As is the case in most empyemas which heal spontaneously, the skin is drawn in towards the parietal and visceral pleura. The wound in this case was three months in healing, and the sinus was kept open during the most of this time by the lost tube, which would allow proliferation of the skin to continue. After complete closure of the sinus it would be therefore possible to have present inside the pleural cavity squamous cell epithelium, which, chronically irritated for a good many years by a drainage tube, might result in a malignant change.

The treatment of these cases as in all malignant conditions involving the pleura and lung up to the present time has been very unsatisfactory. Secondary cancer may occur in the lung, metastatic from carcinoma anywhere in the body. Primary cancer in the lung usually has its origin in the mucous bronchial glands or membranes. Because of the difficulty of early diagnosis surgical treatment is usually absolutely useless. In the case reported had the malignant change started near the sinus on the outside, surgical treatment would have been of some avail.

DISCUSSION.

DR. CHARLES L. WASHBURN: The subject of empyema is interesting to the surgeon. I think you can draw a lesson from this case report that any case of empyema which has recurrence should be X-rayed so as to locate the possible foreign body inside of an old sinus. It is the general rule instead of the exception that drainage tubes are lost in empyema openings. We have seen many of such cases where we have found pieces of drainage tube, safety pins and other foreign bodies inside of the pus cavity, which has kept open for years. Another foreign body which we may find in such cases is bismuth paste. It may start a discussion when I say this, but it is just as much a foreign body as other things that have been mentioned. I have had more trouble in healing such cases than where there were drainage tubes.

I think Dr. Hoyt's explanation of the cause of the carcinoma of the pleura is a good one, that most probably it arose from a dipping in of skin from the old sinus. *In every case which I have seen where there is a drainage tube left in for a long time, there has been a cicatrization of tissue dipping down so that it is continuous with the pleura. Hence it is not at all impossible to get a squamous cell carcinoma arising from this condition. It would be much more likely to arise when there was a drainage tube left in to keep up the condition.

DR. HOYT: Regarding bismuth in empyema, a

great many men recommend it especially for X-ray diagnosis. It does not drain well as Dr. Washburn has said. It becomes caked and hardened in the cavity and the patient who has empyema may come back in two or three years, in cases where the sinus is kept open, and bismuth will be seen in the discharge from time to time.

As regards X-ray, it seems to me a good idea since a tube or foreign body will show up perfectly in a pleural cavity. A recent case in the Surgical department illustrates this. While dressing a recently operated empyema case no tube could be found. The case had been dressed by a nurse on several occasions and she was sure that the tube had been removed with the dressings. X-ray examination of the chest revealed a tube three inches long in the pleural cavity. It is also of value in gunshot wounds where you are liable to have pieces of bone or clothing carried within the pleural cavity. I know of a case of a medical student a few years ago who had a gunshot wound of the chest. X-ray examination showed a piece of mercury, glass and part of a thermometer case which he had in his vest pocket at the time of accident. The wound never would have healed if this material had not been removed. Therefore, X-ray is certainly indicated in these cases.

DEMONSTRATION OF THREE HUMAN HEARTS SHOWING DOUBLE SUPERIOR VENAE CAVAE.

ROLLO E. McCOTTER, M.D.

Professor of Anatomy, University of Michigan.

The somewhat rare condition of double superior vena cava has been reported in the literature about sixty times. Of these fifteen were fetuses, five died at the eighth day, five under the age of four years and the remainder were adults.

Before taking up the cases at hand I think it will be well to review the important factors concerned in the development of the human superior vena cava. As you will remember there is laid down very early in the embryo what is known as the cardinal system of veins represented by an anterior and a posterior pair. The posterior cardinals unite with the anterior cardinals on each side to form the right and left ducts of Cuvier which terminate in the auricular portion of the heart. The cardinal veins take up the segmental veins from the thoracic wall. As the limb bud develops one of the anterior segmentals becomes the subclavian. The cephalic portion of the anterior cardinal veins becomes the internal jugular. The venous trunk from the junction of the internal jugular and subclavian veins to the heart wall develops into the superior vena cava. The posterior cardinal vein forms the azygos system of veins. The left anterior car-

dinal vein sends a cross branch above the level of the heart to join the right anterior cardinal vein, this communicating branch developing into the left innominate vein. The left posterior cardinal vein becomes united to the right posterior cardinal by the development of a transverse branch below the level of the heart. The inferior part of the left anterior cardinal vein degenerates and loses its connection with the heart.

Upon the completion of the changes which have been briefly outlined it will be seen that the venous blood from the left side of the upper part of the trunk passes across the mid line to the right side by way of the left innominate which joins a similar vein descending from the neck region, the two joining to form a large trunk, the human superior vena cava, which terminates in the upper part of the right auricle.

CASE I. was a well developed colored female subject about 35 years of age which was dissected at Vanderbilt University. The heart is of normal size and structure, the pulmonary artery takes origin from the upper part of the right ventricle, passes upward and backward for about two inches and divides into right and left pulmonary branches. The ascending aorta is situated to the right and posterior to it and passes upward to become continuous with the aortic arch. It gives off the right and left coronaries to the heart wall. On the posterior surface of the heart can be seen the four pulmonary veins entering the left auricle. The foramen ovale is entirely closed. The right superior vena cava is formed by the junction of the subclavian and internal jugular veins. It courses downward anterior to the right pulmonary artery and to the right of the ascending aorta to terminate in the upper part of the right auricle. At about 5cm. below the formation of this vein the azygos major joins it on the posterior wall. The left superior vena cava is also formed by the confluence of the subclavian and internal jugular veins and passes downward to the left and anterior to the aortic arch, anterior to the left pulmonary artery and veins, where it courses over the surface of the left auricle and into the auriculoventricular groove. It winds around the base of the heart in this groove and terminates in the right auricle anterior and to the left of the opening of the inferior vena cava. At about 5cm. below its formation the left azygos enters its posterior wall. There is no cross branch uniting the two superior vena cava which are of equal size.

CASE II. was a well developed negro subject also observed at Vanderbilt University. He was about 45 years of age, was well nourished and to all appearance a normal individual. The heart from this case shows four points of particular interest; first, it is enormously enlarged; secondly, the auricles are about equal in volume to the ventricles; the left ventricle shares equally with the right in forming the anterior surface; and finally the auricular appendages are much elongated and show fimbriated margins. The pulmonary artery takes origin from the right ventricle and passes nearly horizontally backward and divides into right and left pulmonary branches. The aorta has its usual position. The right superior vena cava takes origin in the usual way from the junction of the internal jugular and subclavian veins, passes downward and terminates at the upper part of the right auricle. At about 7cm. below its formation the azygos vein joins it on the posterior wall. At about $21\frac{1}{2}$ cm. below its formation it receives a cross branch from the left superior vena cava. The left superior vena cava takes origin from the confluence of the internal jugular and subclavian veins, passes downward for $21\frac{1}{2}$ cm. where it sends off a cross branch to the right superior cava. Below this point it becomes reduced to about one-half its former diameter and courses straight downward anterior to the left pulmonary artery and superior pulmonary vein and onto the surface of the left auricle. Here it becomes dilated to about four times its former diameter and crosses the surface of the left auricle to reach the atrio-ventricular groove. It courses in this groove to the right and terminates in the right auricle in the usual place, that is, anterior and to the right of the opening of the inferior vena cava.

Anterior to the inferior pulmonary vein in the terminal dilated portion of the left superior vena cava is a large opening $3\frac{1}{2}$ cm. in a vertical direction and $1\frac{1}{2}$ cm. in a transverse diameter which communicates with the left auricle.

CASE III. is that of a well developed male subject 57 years of age which was observed at the anatomical laboratory of the University of Michigan. The heart is apparently normal. The pulmonary artery occupies its usual position. The ascending aorta lies to the right and

posterior to the origin of the pulmonary artery. The right superior cava begins in the usual manner by the confluence of the internal jugular and subclavian veins and courses downward to terminate in the upper part of the right auricle. It receives a branch from the left superior vena cava which joins it very obliquely. On the posterior wall it receives the azygos vein. The left superior cava is formed by the large subclavian vein joining a very small internal jugular. It courses obliquely downward and to the right for about 3cm. where it sends a large branch across the mid line to the right superior cava. After giving off the cross branch the vein passes directly downward for 4cm. and becomes reduced to one-third its original diameter and terminates in the left superior pulmonary vein at the hilum of the lung.

In Case I. there is merely a persistence of the anterior and the posterior cardinal veins without any of the usual changes that take place in the metamorphosis from the cardinal system of veins to the normal superior caval system in man.

In Cases II. and III. the venous side of the heart is connected to the arterial side. In Case II. the venous side of the heart, or the right auricle communicates with the arterial side, or the left auricle, through the lower dilated portion of the left superior vena cava and the accessory foramen in the left auricular wall. In Case III. venous blood enters the left auricle through the left superior vena cava and the left superior pulmonary veins.

DISCUSSION.

DR. HOWARD H. CUMMINGS: I would like to ask Dr. McCotter if any murmurs have been described associated with this anomaly.

DR. MCCOTTER: Not to my knowledge, and I do not know of any cases that have been diagnosed as such previous to death.

DR. CUMMINGS: How frequent is it?

DR. MCCOTTER: Case III. is the only one I have observed at the University of Michigan out of about seven hundred dissected cadavers. The two cases observed at Vanderbilt University were among about sixty dissected subjects of the negro class. The percentage, therefore, would be hard to estimate. It might be mentioned in this connection that double superior vena cava is the rule among ruminants, rodents and many of the lower animals. It is surprising that we do not come across it more frequently

in man. There is another interesting question that might be brought out here, and that is, what aided in the formation of the communication between the left superior vena cava and the left auricle as shown in Case II? The anatomist always tries to explain these anomalies by some variation in the normal course of development.

Besides the auricular and ventricular chambers in the early fetal heart, a third chamber develops and is known as the sinus venosus. The sinus venosus becomes elongated laterally into right and left processes, the right and left sinus horns. The sinus communicates with the common auricular chamber by a large oval opening with its long diameter placed transversely. Through the normal course of development the left sinus horn becomes reduced in size and loses its connection with the left cardinal veins. The left half of the large oval foramen connecting these two chambers becomes constricted so that the opening is reduced to less than half its original diameter. The interauricular septum develops just to the left of the constricted opening. It appears quite probable that in Case II. the left sinus horn did not degenerate and that the communication between the sinus venosus and the common auricular chamber did not become constricted. The development of the interauricular septum which divides the common auricular chamber into the right and left auricles also divided the large oval communication between the sinus venosus and the auricular chamber into two parts, the left portion communicating with the left auricle and the right portion communicating with the right auricle. Then the foramen by which the left superior vena cava communicates with the right auricle in this case represents a portion of the right half of the large oval foramen mentioned above. The foramen by which the left superior vena cava communicates with the left auricle represents the left half of that opening.

REPORT OF A CASE OF RESTORATION
OF THE UPPER AND LOWER LIDS
OF BOTH EYES.

ROBERT WILSON SELBY, M.D.
(From the Clinic of Ophthalmology, University Hospital, Ann Arbor, Michigan.)

The case which we wish to present is one of skin grafting for the correction of bilateral ectropion of the upper and lower lids, the result of burns received from an explosion of gasoline. The patient, Mr. A. G., age 28, white male, miner, entered the University Hospital April 30, 1915 and was sent to the Surgical clinic. On May 5 he was transferred to the Ophthalmologic clinic for operation. The general history is unimportant.

The history of the accident is as follows: About midnight on the fourth of December last, the patient took into his house a can containing about three and a half gallons of gasoline from which he wished to fill a smaller can. The room was poorly lighted from a light in the adjoining room so in order to find the small can he lighted a match and threw the stem upon the floor. In pouring the gasoline from one can into the other some was spilled upon the floor. This ran along the carpet and reached the still glowing match stem, was immediately ignited and in turn ignited the oil in the small can. Thinking to save the large can, which he still held in his hands, he attempted to toss it into the next room. Before he could do this, however, it also took fire and exploded throwing burning oil all over the patient's body.

In order to get out of the house it was necessary to pass forward through the flames and the two adjoining rooms, opening two doors on the way out. Holding the breath and protecting the face as best he could with his hands he finally got out of doors. There was a sand pile in the yard and into this he threw himself and by wallowing over and over succeeded in putting out the fire. His head, face and neck, hands and forearms were frightfully burned. There were also smaller burns about the thighs. First aid treatment was given him that night and the next day he was taken to a local hospital.

Upon entrance into the Ophthalmologic clinic examination revealed the following condition of the eyes: The upper and lower lids of each eye were completely everted. The cilia of the upper lids were displaced upward to the lower margin of the supereilia; the cilia of the lower lids were displaced downward for about three centimeters. There was a profuse mucopurulent discharge from both eyes. The exposed conjunctiva of the lids was intensely red and presented a beefy appearance. The ocular conjunctiva was markedly injected. In the right eye there was a round corneal ulcer about one and a half millimeters in diameter situated down and in. In the left eye there was also a corneal ulcer about twice as large, irregular in shape, situated down and out.

On May 10 both lower lids were operated. The technic which Doctor Parker employed is

as follows: The field of operation was prepared by carefully cleansing with benzine and iodine. The lower lid of the right eye was operated first. A curved incision, convexity downward, was made beginning at a point opposite the



Fig. I. Before operation.

punctum lachrymalis and about one-half millimeter from the free margin of the lid. Maintaining this distance from the lid border the incision was extended to a point opposite the lateral commissure of the palpebral fissure. The depth of the incision was that of the skin and subcutaneous tissues. The lid was then dissected free from its bed, care being taken not to buttonhole the conjunctiva. This dissection extended to the region of the fornix. The lid could now be drawn into a normal position. Two sutures of No. 6 silk were passed into the lid border, one at the junction of the outer with the middle third and the other at the junction of the inner with the middle third. These sutures were loosely tied, their ends left long and carried to the forehead where they were made fast by strips of adhesive. The lid was thus held in a position of over correction, its border crossing the cornea at its superior margin. The denuded area left below was elliptical in shape and measured about two and a half by four centimeters. The bleeding points were controlled by pressure and hot salt solution and the area left exposed

to the air "to glaze over" while the grafts were being prepared.

The arm had been previously prepared by thorough scrubbing with green soap and sterile water, covered with sterile gauze and then bandaged. The dressings were removed and the skin, free from hair, over the mesial aspect of the arm covered with a thin film of sterile vaseline. With a sharp razor, flat upon one side, which had just been boiled and its flat surface thinly smeared with the vaseline, Thiersch grafts, cut as thin as possible, were taken. The first graft cut was about three by six centimeters and gave the impression to one looking on as being large enough for the entire area. When transferred, however, it was found that another equally as large was necessary to completely cover the denuded area. The second graft was taken and both carefully "patted" into place great caution being taken that the edges were not curled upon themselves and that no air spaces were left between the grafts and their bed.

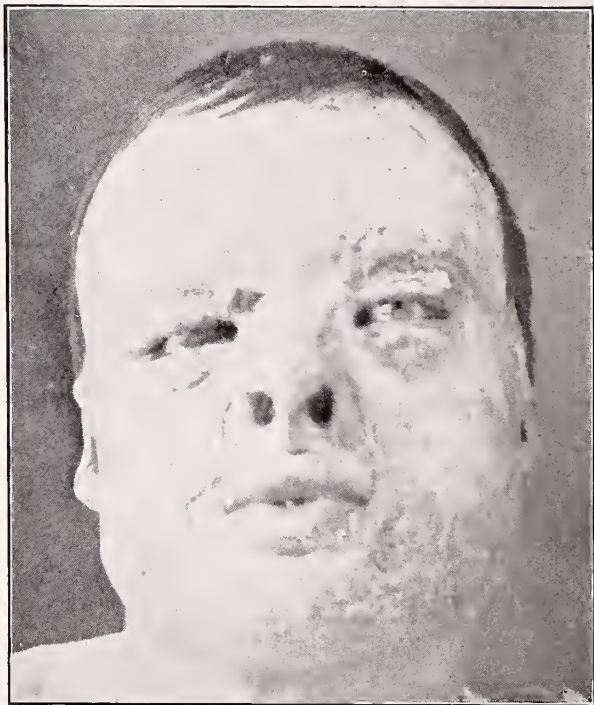


Fig. II. Four weeks after operation upon lower lids and one week after operation upon upper lids.

The operation upon the left eye differed from that upon the right only in that the grafts taken were slightly smaller and three were used.

On June 3 the upper lids were operated upon. The field of operation was prepared with benzine

and iodine. Beginning at a point five millimeters external to the lateral limit of the cilia a curved incision, convexity upward, was made through the skin and subcutaneous tissues. The incision followed the curve of the free border of the lid and was three millimeters from its outer limiting margin and ended just internal to the mesial limit of the cilia. The operation from this point was identically the same as that for the lower lids. The stay sutures were, of course, carried down to the cheek and when made fast the upper lid slightly overlapped the lower.

The operated areas were dusted with aristol and left exposed to the air. A special nurse was placed on duty with the patient to guard the grafts from any injury that might come to them from the bed clothing or the patient's hands. Into the little pockets that were formed at

each inner canthus small wicks of gauze were placed and these renewed as fast as they became saturated with the tears and discharge.

The after treatment consisted of occasionally patting the grafts to express any serum that might accumulate under them. The eyes were kept scrupulously clean by frequent irrigations and a close watch kept for any signs of infection. After four or five days if the stay sutures had not cut through they were removed.

DISCUSSION.

DR. CHARLES E. ABELL: An important point to be considered in skin grafting for extropion of the lids is the degree of correction to be secured. To merely place the lid in its normal position does not suffice. It must be overcorrected by drawing the lid to be grafted well over the other lid, thus exposing a larger denuded area. Contraction later follows which restores the lid to its normal position. Overcorrection seldom results.

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Editorials

UPPER PENINSULA MEDICAL SOCIETY.

Twenty-two years ago certain members of the profession residing in the Upper Peninsula of this state gathered and formed the Upper Peninsula Medical Society. From its inception the organization has experienced a series of profitable and entertaining meetings that have served to hold in cordial relationship the physicians of the Upper Peninsula and has stimulated them to become scientific, well informed physicians and surgeons.

The organization has no constitution or by-laws. The paramount object is the discussion of medical subjects and the cultivation of the fraternal spirit. To this, their aim and object, all else is subservient. The society meets annually during the month of August, and the place of meeting is of routine selection, Calumet, Houghton, Escanaba, Ishpeming, Marquette and Sault Ste. Marie thus traversing the entire peninsula. The officers and members of the county society in the place where the meeting is held act as host.

It has been our pleasure to attend a number of medical meetings in this and other states but we cannot recall any meeting wherein there was evidenced the alertness, sincerity of pur-

pose, the whole hearted discussion wherein one imparted his experiences for the benefit of his fellows and where the true spirit of fraternal brotherhood was exhibited to the extent that it is in evidence in the Upper Peninsula Medical Society. That organization—composed as it is of men sincerely and studiously interested in their work, its multitudinous problems, its ever changing developments and intent in remaining abreast with its progress so that they may grasp, and understandingly apply, in their daily work, that which is acknowledged as the most efficient and effective way of administering to their clientele—may be truly pronounced an ideal medical organization. It is of inestimable value to the doctors of the Upper Peninsula and should there be any residing in that territory who do not avail themselves of the benefits conferred by that organization, we would indeed urge that they no longer deny themselves the benefits that await their affiliation.

The meeting this year at Sault Ste. Marie maintained the high standard; this issue contains the majority of papers that were read.

EPILEPSY.

Epilepsy is one of a group of related diseases which begins with the neurotic individual and often ends at the insane asylum. All gradations may be observed from simple nervousness, on up through such defects as stammering, hysteria, obesity, rheumatism, chorea, gout, psychasthenia, asthma, melancholia, alcoholism, hereditary syphilis, migraine, petit mal, epilepsy, feeble mindedness and degeneracy to complete insanity. These various disorders may be seen in varying combination, either in the same individual, or in the same family. They seem to be inherited and, in the process of transmission, to be capable of transformation from one form into any of the others. The idea has begun to force itself upon many of us that there may be some relationship between these diseases and a latent infection in some unknown ancestor.

Considering how prevalent syphilis is, and remembering how many ancestors every person has had, is it not likely that few of us have entirely escaped the remote effects of this undesirable inheritance? It also seems unlikely

that such a disorder would vanish without leaving some traces beyond even the fourth generation. While the more remote effects of lues might not act directly, they might develop secondarily causing impairment or perversion of glandular activity tending to lowered resistance and to diminished nervous force.

The hereditary influence in epilepsy is remarkable. The more one investigates the ancestors, or follows the posterity in such cases, the more striking the relationship becomes. In fact it is said that there is only one disease in which the hereditary factor is stronger than in epilepsy.

If the children of epileptics do not have the disorder itself they almost certainly have some allied diseases. Epilepsy which develops spontaneously is a rare and unusual malady.

Gowers says that over 50 per cent. of all cases of epilepsy give a positive family history of epilepsy or insanity in the ancestry. A remarkable feature of the inheritance is the predominating influence of the mother; over two-thirds of the hereditary cases being derived through the maternal line.

Epilepsy is by no means an uncommon disorder. In 1906 it was reliably estimated that there was one epileptic to every 280 persons in Massachusetts, while according to the more imperfect statistics of the entire nation, the United States contained no fewer than 150,000 to 160,000—or one for every 500 of its population. Of these only about 3,500 were properly cared for by the state, and only seven states afforded special care for these unfortunates. If properly treated, Turner and Dana say that 10 per cent. or more of those who come to our public institutions may recover, while Oppenheim says the number is far greater than is commonly supposed. Forty per cent. are susceptible to material improvement, half of whom are thereafter able to pursue their routine duties and occupations, while most of the remainder are compelled to remain under restraint or segregation permanently. About 10 per cent. become entirely demented and go insane.

When we consider that these statistics are compiled in institutions, and from the worst class of patients, the trouble does not seem nearly so hopeless. These cases are the bad ones—the old and chronic victims one might

say. They are the ones either too poor or too miserable to have had treatment, or else they are the ones on whom at least the family physician has failed in giving them relief.

The sooner a case comes under treatment the better, and the less the mental change which has taken place, the more favorable are the chances for amelioration.

While about one-fourth of all cases in general cannot be followed, there are only about 20 per cent. which do not show any response or results from treatment. According to Spratling the recent cases are about twice as responsive to treatment as chronic ones. He further says that 25 per cent. of epileptics die during convulsive seizures.

After such cases run into insanity they may be said to be incurable.

On looking over the "Report of the Commission to Investigate the Extent of Feeble-mindedness, Epilepsy and Insanity and Other Conditions of Mental Deficiency in Michigan," one cannot help being impressed by the scant systematic efforts on the part of the commonwealth to care for these unfortunates. In fact they cannot be said to have either a proper place or proper treatment, and it seems to be the policy of the state to dodge responsibility in their behalf as far as possible. They are cared for in the poor houses and jails and reformatories and industrial schools and hospitals, mixed with all kinds of other inmates, as well as with normal individuals, whom they disturb and who exert an injurious influence on them. The treatment which they get is doubtless—in most cases—a farce.

Ohio was the first state to care for its epileptics in a separate public institution and to afford them careful and scientific treatment. There are facilities in Gallipolis for the care and treatment of over 1,500 patients. The results obtained have been most encouraging. Favorable results are not to be seen alone in the cures produced nor in the amelioration of the attacks in a goodly percentage of cases. The kindly sympathy and protection which they experience and the humiliation which they are spared, owing to their peculiar affliction, is beyond estimate. Lastly there are results obtained through the ability of these institutions to protect the public from an increase in these

defectives, who reproduce their disorders more faithfully than any defective class, with the possible exception of hemophilia.

Under the circumstances, and aside from the humanitarian standpoint, it seems as if the installation of proper institutional treatment freely open to these people would be one of the best investments which our state could make for the future welfare of its citizens.

WESLEY TAYLOR.

PHYSICIANS' BUSINESS BUREAU OF THE WAYNE COUNTY MEDICAL SOCIETY.

R. L. CLARK, M.D.

Chairman of Publicity Committee.

DETROIT, MICH.

The business phase of the practice of medicine has been one feature the medical profession generally has paid very little attention to in the past, partly because of the dislike for the keeping of books and mailing statements and partly the enmity caused in collecting some accounts. During the past few years the doctor's overhead expense account has so greatly increased, due to advancement of civilization, that he now realizes something needs to be done.

There are a number of people who believe that a doctor is a nice person to have around when there is sickness but a very objectionable person when he mentions money. We refer to that class of people who can afford to pay the doctor's bill but who purposely dodge it. There is another class of people who do not remit because their doctor is such a poor business man he never sends them a statement.

Several of the physicians of Detroit spent considerable time studying how various bureaus were operated and the manner they would necessarily pursue to establish one for the profession of Wayne County. The president of the Wayne County Medical Society appointed a committee of six to draft a constitution and by-laws for a proposed bureau, which were later adopted by the Society. In the constitution and by-laws the following are the chief points considered: To educate the physician

to be a business man. To educate the lay person, who can afford to, that he must pay his medical bills and pay them promptly. The bureau is governed by six men who are members of Wayne County Medical Society and they constitute the Board of Control. In order to become a member of the bureau one must first sign a membership card agreeing to send statements to all patients the first of each month. Members of Wayne County Medical Society are admitted to membership free; those physicians not members of the Society are charged a fee of three dollars. A statement must be mailed to the debtor each month and at the end of three months if the debtor has shown no inclination to pay he is mailed a first form letter which is furnished by the bureau and which reads as follows:

Detroit Physician's Business Bureau,
Wayne County Medical Society Building,
33 High Street, East, Detroit, Mich.

Dear Sir:

If there is any reason why you are unable to pay your account within the next ten days, kindly see me before that time, or I shall be obliged to place it with The Detroit Physicians' Business Bureau, for rating and collection.

Very truly yours,

.....

(Member of Detroit Physicians' Business Bureau).

If in ten days no reply is received from the debtor the stub containing such information as is deemed necessary is mailed to the bureau. The office enters the information on a specially devised card to be used for future reference and at the same time mails a second form letter to the debtor, (this form letter may be had upon request). If in ten days no reply is received the account is entered upon a collector's card and turned over for house to house collection. If the collector claims the bill is disputed or that it will be difficult to collect then the account is given to the attorney to collect out of court if possible if not then he is to garnishee, etc., providing he has the sanction of the doctor. Accounts, if so requested by the doctor, are given directly to the attorney. All those handling money are bonded.

The bureau charges the doctor five cents for each first form letter. This is more than cost but as there is no commission charged on col-

lections made by this letter we feel the bureau is entitled to a small profit. On all collections made by the second form letter the bureau charges 10 per cent. On collections made from house to house 25 per cent. is charged and a fee of 25 per cent. is charged by the attorney for collections made out of court. For all collections made by court procedure the attorney charges a fee of 40 per cent. under \$20, 33 per cent. up to \$50, 20 per cent. up to \$100, and 15 per cent. for all collections over \$100 and he pays all court costs. All business must be carried on through the bureau. Checks with itemized accounts are mailed to the doctor the first of each month. No charge is made if no collection is made. Only one charge is made on any one account collected.

The bureau is supported by profits on the sale of first form letters, 10 per cent on collections, and membership fees. One lady, with a little assistance, has done all of the work. The bureau is located in the Wayne County Medical Society building at 33 High Street, East. The Board of Control meets every Monday and hears a report on the previous week's work and transacts such business as comes up.

The bureau was given two hundred and fifty dollars to start operations. After equipping it in a very modest way we still have a large balance on hand. Many promoters claim that such an enterprise costs considerable money to organize and maintain yet such has not been our experience.

The results of the first form letters have been astonishing. Some members report nearly 50 per cent. collected or promises on this form. We are unable to publish the number of thousands of dollars collected in this way. The bureau collected by various means eight hundred and ten dollars from March 15 to May 1; from May 1 to June 1 seven hundred and eighty-seven dollars; from June 1 to July 1 fifteen hundred and twenty-two dollars, or a total of three thousand one hundred and nineteen dollars since March 15 besides the thousands collected by the first form letter. The Board of Control are justly proud of the results obtained when one considers that the bureau is still in the organization period.

Three hundred doctors have joined the bureau. The opposition is fast disappearing and

each member is becoming prompt in making his reports of collections to the bureau, sending out his statements, and sending in his unanswered stubs. The people realize that the time has arrived when the doctor's bill must be considered along with their other bills. We have the lay press to thank for their support through their columns. No objection has been raised and we see no reason why there should be when you consider that the honest always pay their bills and the doctor always stands ready to render services to those who are deserving but unable to pay. No legal difficulties have as yet come up.

We expect in time to have a valuable information bureau. We expect to develop a simple universal card system for accounts and history keeping. We have ladies who will go to doctors offices, adjust their books and mail their statements. We are trying out a field man at present whose duty it is to interest new members.

The Board of Control are a unit in expressing their appreciation of the results obtained so far and we sincerely hope this movement will extend to other cities and towns and that a mutual relationship may be established. We stand ready to elucidate anything that is not made clear in this paper or to furnish such information as may be desired. Now is the time that the physician should realize the importance of better business methods in the practice of medicine but he should ever bear in mind that humanity comes first.

33 High Street, East, Detroit, Mich.

STATE BOARD OF HEALTH.

Believing that our members are more than interested in the activities of the State Board of Health we are publishing in full the secretary's annual report for the fiscal year ending June 30, 1915. On the whole there occurs but one criticism and that in particular is directed to the very apparent top-heaviness of the salary list of the laboratory. We understand that one of the clerks, the wife of a reporter, holds her position by reason of politics and receives an annual salary of \$1,100.00. The laboratory might well dispense with her services and the amount appropriated for free Wasser-

mann tests. As it now stands larger salaries are being paid in the laboratory department than in the office of the secretary. A retrenchment is certainly warranted.

Barring the criticism the report of the secretary merits commendation. The work accomplished is pleasing in every detail and reveals efficient management and executive ability in the safeguarding of public health with limited appropriations.

In compliance with the requirements of the State Law governing the duties of executive heads of State Departments and Boards I have the honor to herewith submit my report as Secretary and Executive Officer of this Board for the fiscal year ending June 30, 1915.

During the month of July, 1914 an automobile "Good Health" tour, in conjunction with the West Michigan Pike Association, was undertaken, beginning Monday morning July 13, 1914 at St. Joseph, Michigan and closing July 19, 1914 at Manistee, Michigan. This Board was represented by President V. C. Vaughan, State Sanitary Engineer E. D. Rich, and the Secretary. A full account of the tour was published in the August, 1914 "*Bulletin*."

August 2, 1914 the Annual Exhibition train, in conjunction with the Dairy and Food Department, was begun. The schedule comprised Lapeer, Imlay City, Capac, Port Huron, Croswell, Carsonville, Deckerville, Harbor Beach, Bad Axe, Sebawaing, Akron, Tawas City, Au Sable, Harrisville, Alpena, Onaway, Tower, St. Ignace, Engadine, Manistee, and many other towns and cities in the Iron and Copper Country of the Upper Peninsula, and terminated at Grand Rapids, where the Exhibit remained during the progress of the West Michigan State Fair, August 28 to Sept. 7.

The car was inspected before departure from Lansing by the Governor and many prominent citizens of Lansing, and pronounced superior to anything of the kind heretofore undertaken. Many new charts, devices and models were shown, and the arrangements provided for at least four of the employes of this Board with the Secretary or Assistant Secretary on duty during exhibition hours.

The generosity of the Railroads and Pullman Car Company enabled me to conduct this tour without any cost to the state for transportation of equipment. A full account of the tour was published in the September "*Bulletin*."

Especial attention has been given to "Good Health" Weeks and some very excellent results have been attained by this method. Hastings, Lapeer, Three Rivers, Ludington, Port Huron, and Escanaba were

all given from five to seven days each. Speakers from this Board and the University of Michigan Extension Service were furnished at every meeting. The expense of all lectures and exhibits furnished from this office were paid out of our appropriation. Exhibits were given without lectures except by the demonstrator, in connection with "Child Welfare," "Anti-tuberculosis" and other organizations, at Grand Rapids, Detroit and other places.

The Secretary, Assistant Secretary, Sanitary Engineers and Bacteriologist have given individual lectures for Farmer's Institutes, Grange Meetings, etc.

Many new mechanical devices and charts have been added to our exhibit.

Moving picture films have been purchased and this method of demonstrating Public Health is, in the writer's judgment, much superior to lantern slides.

During the recent session of the legislature considerable literature on Public Health matters was sent to each Senator and Representative in an effort to secure some needed legislation and increased appropriation for the Lansing Laboratory, but all efforts failed, and notwithstanding the fact that many of our measures passed the Senate and Public Health Committee of the House, they never got out of the Ways and Means Committee.

THE BULLETIN.

Our monthly publication styled "*Public Health*" is being sent to every country where the English language is read. Our circulation has increased 2,500 during the fiscal year. Requests are constantly coming to us from countries and states for the "*Bulletin*" and our communicable disease literature.

EMBALMER'S DIVISION.

There were 1,303 licensed embalmers in good standing June 30, 1914.

Total amount of fees for renewals and revivals received	\$667.50
During the year 74 applicants presented themselves for examination—fees received	370.00
Total number of reciprocal licenses issued 12 at \$10.00 each	120.00
Total	\$1,157.50

Of the 74 applicants who took the examination in 1914, 38 were successful. Of the 60 who examined in 1915, 50 were successful.

Number of licenses renewed for fiscal year ending June 30, 1915, 1342.

Fees for renewals	\$693.00
Total number examined during year	
60 at \$5.00 each	300.00
Total number of reciprocal licenses	
issued 6 at \$5.00 each	30.00
Total number admitted to registra-	
tion by reason of graduating at	
U. of M. Embalming School 8	
at \$5.00 each	40.00
	<hr/>
Total	\$1,063.00

The expenditures for the fiscal year ending June 30, 1914 were \$1,157.41, leaving a balance of 9 cents, which was turned into the Treasury of the State.

The expenditures for the year 1914-1915 were \$831.06, leaving a balance of \$231.94, which was turned over to the Treasurer and receipt taken.

The number of examinations held, two—one at Grand Rapids in July, 1914, one at Lansing December, 1914.

LABORATORY.

Total receipts from earnings and	
collections of old accounts ..\$	668.00
Appropriation	5,000.00
Balance on hand July 1, 1914 .....	.93
	<hr/>
	\$5,688.93

EXPENDITURES.

Salary of Bacteriologist	\$2,200.00
Salary of Assistant Bacteriologist..	1,500.00
Salary of Clerks	1,205.00
Postage	141.00
Printing and binding	46.29
Office supplies and stationary	536.32
Miscellaneous .....	.93
Express, freight and cartage ....	.38
	<hr/>
	\$5,629.92
Balance on hand	\$ 59.01

GENERAL APPROPRIATION.

July 1, 1914—	
Appropriation for fiscal year	
July 1, 1914 to June 30, 1915	\$15,000.00
July 1, 1915—	
Disbursements July 1, 1914 to	
June 30, 1915	\$12,566.64
Outstanding bills (estimated) 1,302.76	13,869.40
	<hr/>
June 30—	
Balance on hand (estimated)	\$ 1,130.60

DISTRIBUTION.

Engraving, drawing, etc.	\$ 166.86
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Expenses of Members—	
Attending Regular Meetings	249.63
Other expenses	83.35
Instruments and books	168.89
Paper, stationary, etc.	1,898.07
Postage	750.00
Printing and binding	4,081.05
Secretary's salary	2,500.00
Special investigations	129.22
Telephone	100.81
Telegraph	44.80
Express	337.49
Educational purposes (lecturer's expenses)	
investigations, etc.	1,558.17
Engineering Department (Miscellaneous	
supplies, etc.)	248.51
Miscellaneous	249.79
	<hr/>
	\$12,566.64

For the purpose of comparison with former years I herewith submit a statement from the Auditor General's department of the balances turned in from the various appropriations of this Board.

(Act 132—Public Acts 1903) Embalmer's Fund.

1910	\$.41
1911	16.56
1912	6.69
1913	1.06
1914 .....	.09

(Act 255—Public Acts 1913) General Fund, State Board of Health.

1910	\$.09
1911	1.42
1912 .....	.72
1913	130.22
1914	284.33

It will be observed that notwithstanding the fact that we show an increase in the work put out from this office over any other year we take pleasure in calling your attention to the fact that I have returned to the State Treasury from the Embalmer's Fund \$231.94.

From the general fund \$1,130.60. This sum takes into consideration the problematic outstanding accounts as follows:

The financial quarter for the quarter commencing April 1, 1915 and ending June 30, 1915, also for the fiscal year ending June 30, 1915, shows a balance, according to books in the office of the Auditor General, of \$2,433.36.

From this balance the outstanding accounts against this Department, amounting to approximately \$1,-302.76 should be deducted, leaving a net balance after all bills are paid of \$1,130.60.

During the fall and winter of 1914 and 1915 we experienced a state-wide outbreak of diphtheria, smallpox, and scarlet fever. The question of carriers has been given considerable attention, and some very interesting developments have come to light, all of which have been embodied in articles upon the subject in the "*Bulletin*," and individual articles. The District Medical Inspectors have rendered excellent service, and in several instances alarming outbreaks of smallpox have been restricted by the prompt and efficient service of the District Medical Inspectors.

The deductions to be made are as follows: County or District Public Health supervision by a full time, well paid, County or District Health Officer, is the proper solution of efficient Public Health service.

The Engineering Division has been enlarged and now consists of a Chief Sanitary Engineer, and three competent assistants, and I cannot commend too highly the work of these gentlemen. The fruits of their labor will be apparent in the next two years. They are at present a tower of strength and assistance to this office.

A few changes in the clerical force became necessary by reason of resignation and death. In all two appointments, to clerical positions, have been made during the fiscal year.

January 1, 1915, Mr. Frank Presley, an expert accountant, was appointed to succeed Mrs. Alice Carr Hill who died in December, 1914. Mr. Presley is an unusually good accountant and accurate book-keeper, and much of the savings in expenditures are due to his watchfulness.

February 1, 1915 Miss Alice Mathews of Portland, was engaged to fill a vacancy in the clerical department.

With few exceptions the clerical force is efficient. Some changes, in the judgment of the writer, are absolutely necessary to insure harmonious and efficient work.

J. L. BURKHART, Secretary.

ANNUAL MEETING.

Our Fiftieth Annual Meeting had not yet convened when the last forms of this issue of *The Journal* went to press. We are therefore unable to publish the transactions of that meeting in this issue. The October *Journal* will contain a complete report of the entire proceedings.

BUSINESS METHODS.

The plan of the Detroit Physicians Bureau as outlined on another page of this issue is worthy the study and consideration of groups of physicians throughout the state. The day is past when a physician or surgeon may purposely or carelessly neglect securing the prompt collection of his accounts. The commercial world's 30, 60 or 90 days' credit should extend to the accounts of the medical profession. No single reason exists why the physician should not be paid within the time limit customarily extended by commercial firms. In extraordinary adversities the accounts may be closed by the debtor furnishing notes secured by collateral or endorsements.

We as a profession must live by the earnings of our work as does the priest from his pulpit, the lawyer by his bar and all others by their respective avocations. We are not expected to carry the indebtedness of those overtaken by sickness for an indefinite period extending from three months to two or three years. The custom of doing so in the past must be corrected and in a dignified, honest and businesslike way we should expect and rightly demand the prompt settlement of the accounts of those indebted to us.

The plan mentioned presents a most admirable and acceptable way. It is incumbent upon us to create its universal adoption. In cities it may be readily instituted as has been done in Detroit. In those counties containing only smaller towns with one or more physicians in each village the bureau may be organized for the entire county and conducted by the organized co-operation of the county society. The plan is applicable throughout the entire state and we sincerely hope to be favored with early reports conveying the information of the successful institution of such bureaus throughout the state.

Present day methods and civic life make such a statewide movement imperative.

Editorial Comments

The original article in this issue by Dr. George J. Barnett of Ishpeming on "Observations of 3,590 Obstetrical Cases" is worthy of careful reading. Unto but few of the profession does there occur the opportunity of reporting such a large series of obstetrical cases. The doctor is deserving of the heartiest felicitations on his splendid showing. Had these cases occurred in a large maternity hospital possibly the results might not be considered exceptional. In a private and corporation practice where labors were attended midst every conceivable surrounding and at times with but the erudest facilities at the doctor's disposal a death rate for the whole series of $\frac{1}{2}$ of 1 per cent. certainly is a record worthy of a master.

Again, to have resorted to forceps to accomplish delivery but 186 times in 3,590 cases must refute the arguments of those who justify their early resort to instrumental interference. And so might one discuss the entire report of this large series. It is a most valuable and instructive paper and we are proud of the privilege of publishing it.

Fall and resumption of county society meetings should witness a determination on the part of every member to cause the unaffiliated physician in the state to file his application for membership. Will you not personally secure the application of some eligible physician in your community and present it at your next meeting? Our county and state organizations membership should receive a 500 fold increase before January 1. If you but will this may be accomplished.

Would that we could impress upon every member, the necessity of rendering to our advertisers the patronage they merit. Some, we gratefully acknowledge, have complied with our requests. If every member would but follow their example there would be encountered but little difficulty in renewing contracts for advertising space. If you desire *The Journal* to be better or even maintain its present standard this co-operative support is imperative. Will you lend your assistance?

Deaths

Dr. Florence Huson of Detroit died Aug. 8, 1915. She was one of the leading women physicians of the state and was founder of the Blackwell Society having held office of President for many years. She has also been identified with movements for the welfare of women and girls. She was a member of the M.S.M.S. and also affiliated with the Women's Free Hospital and Dispensary. Her death resulted from a stroke of paralysis.

Dr. A. E. Gourdeau of Ishpeming died Aug. 8, 1915. He was a prominent physician and had been located in Ishpeming since 1882. His death resulted from cancer of the throat.

State News Notes

FORD CAR OWNERS. Betz Tire Savers and Flexible Riders save more than their price on one set of tires and make your car as easy riding as a Pearce-Arrow or a Packard. Write to-day.—Address Betz Tire Saver, Hammond, Indiana.

WANTED — RESIDENT PHYSICIAN. Detroit Receiving Hospital, with psychopathic and surgical experience. Salary \$1600 per year and maintenance—position to be filled at once.. Address—H. H. Prenzlauer, Secretary, Detroit Poor Commission, Municipal Court Building, Detroit.

WANTED—INTERNES AT THE DETROIT RECEIVING HOSPITAL. Service to begin at once. Salary \$25.00 per month, with room, board and laundry. Address H. H. Prenzlauer, Secretary, Detroit Poor Commission, Municipal Court Building, Detroit, Mich.

FOR SALE—Laboratory accessories consisting of one best made BAUSCH & LOMB microscope, in use three years and well-cared for; mechanical stage; haemocytometer; dark field illuminator; centrifuge; glassware; and

all the accessories that go with a small modern laboratory. Price \$85.00. Address Dr. N. De Haas, 4 E. Main St., Fremont, Mich.

11-1-15.

REPORT OF THE PAPERS READ AT THE ANNUAL MEETING OF THE UPPER PENINSULA MEDICAL SOCIETY.

The Upper Peninsula Medical Society held its annual meeting in Sault Ste. Marie, Aug. 4 to 5 which was most interesting and instructive. Papers were all discussed by many members with enthusiastic scientific interest.

President Turner of Houghton in his annual address reviewed the recent work of Dr. C. A. L. Reed of Cincinnati, on surgery of the colon for the relief of epilepsy. Dr. Turner had recently visited Dr. Reid's clinic and gave a very interesting report of his observations from which it appears that many cases of epilepsy are due to the toxemia arising from intestinal stasis.

The first paper was read by Dr. Lawbaugh of Calumet upon Syphilis of the Liver from which it appears that many cases of cirrhosis of the liver are caused by syphilis and that blood tests should be made as a precautionary measure in all cases of liver cirrhosis. If the cause of the disease is discovered sufficiently early appropriate treatment may be depended upon to effect a cure. This paper was discussed very freely although nothing of value was added to the observations made by the essayists.

Dr. Campbell, Superintendent of the State Hospital at Newberry, presented a paper upon the "Usefulness of the State Hospitals" in which he argued for the establishment of closer relationships between the staffs of the State Hospitals and the profession of the state by which earlier diagnosis might be made in some types of insanity and whereby observation might be maintained upon discharged patients and their habits of life as far as possible. In this statistical observation he stated that 20 per cent. of first admissions recover and that many other cases will recover if admitted earlier in the disease. The Wassermann positive is obtained in 14 per cent. of admissions and it is fair to assume that if all these cases had been properly treated the stage of insanity would not have been reached. In the discussion it was pointed out that if the proposed District Health bill had been passed by the late lamented legislature, machinery would have been provided for following up observations upon discharged patients. It was urged that the members of the society institute educational labors upon the people of their communities so that the laity may become cognizant of the advantages of public health that

may be realized by effective health work. The profession was urged to exercise its talents and not tamely submit to defeat of its efforts to afford protection to public health at the hands of the unholy combination of Christian Scientists, patent medicine dispensaries, osteopaths and other varieties of quacks who are attempting to slip into the ranks of the medical profession through the back door. The discussion was very general and many expressed the conviction that the usefulness of the State Hospitals would be much increased if the members of the staff more frequently attended Medical Society meetings and presented papers of general interest to the profession.

Dr. Kitchen of Escanaba read a paper upon Dislocation of the Semilunar Bone With or Without Traction of the Scaphoid. He recommends removal of the semilunar. General discussion followed the reading of this paper from which it appeared that this injury is either very infrequent or so far has escaped recognition in the hands of most surgeons.

Dr. Barrett of Ishpeming presented a most complete statistical report of 3,590 cases of obstetrics attended personally during thirty years practice with a mortality of $\frac{1}{2}$ of 1 per cent.

Dr. H. M. Cunningham presented a report upon his work in bronchoscopy and esophagoscopy. He exhibited four foreign bodies removed by means of the esophagoscope and two removed from the bronchi showing that these instruments have been perfected and are dependable in the hands of an experienced man. This is comparatively new work and our friends in Upper Michigan are to be congratulated upon having such high grade work done there.

Dr. Winslow presented a report of an interesting case of chylocyst of the mesentery presenting symptoms of chronic appendicitis with bowel obstruction. The possibility of this condition should be borne in mind when at operation the appendix was found not to be accountable for the symptoms. These cysts may occur at any point in the mesentery and contain chyle.

Dr. Fred Townsend presented a new splint for fractures of the leg devised by himself which attracted much attention. It may be made in a few minutes by any carpenter or by the doctor himself, if he can use a few simple tools, to fit any given case. It seems to the writer that this splint will be much more efficient in fractures of the leg and lower thigh than apparatuses heretofore in use.

Dr. G. P. Brandon of the staff of the State Hospital at Newberry read a paper upon general paresis. The usual pessimistic prognosis was given and it appeared from the paper that at Newberry the newer treatment of their disease by intraspinal injections

of salvarsanized or mercurialized serum had not been given a trial. This fact was criticized in the ensuing discussion, it being held by several that any new method of treatment in these heretofore hopeless conditions should be tried out by the staffs of our State Hospitals. It is pretty well established that proper treatment of syphilis will prevent the occurrence of general paresis. It remains for our State Hospital staffs to determine whether or not the disease can be checked by intra spinal injections of appropriate medicines. This paper and the discussion again emphasized the fact that much mutual benefit would result from more frequent conferences between the physicians upon the staffs of our State Hospitals and the general practitioners.

W. T. DODGE.

RESOLUTIONS.

Whereas; The Upper Peninsula Medical Society has received every courtesy and attention from the Mayor and citizens of the city of Sault Ste. Marie; and the members of the Chippewa County Medical Society have left nothing undone in their efforts to make this meeting of the Upper Peninsula Medical Society a success.

Be it Resolved; That a note of thanks be hereby extended to Mayor Sherman T. Handy. The Rev. Stephen H. Alling, The Sault Ste. Marie Club, the ladies assisting in the musical program, the press of the Chippewa County Medical Society for the many courtesies and the royal hospitality extended to the members of the Upper Peninsula Medical Society at its 1915 meeting.

Whereas; The Houghton County Medical Society has extended an invitation to the Michigan State Medical Society through the Upper Peninsula Medical Society to hold its 1916 meeting in the Copper Country.

Be it Resolved; That the Upper Peninsula Medical Society extend this invitation to the Michigan State Medical Society and,

Be it Resolved; That should this invitation be accepted by the Michigan State Medical Society a joint meeting of both societies be held in the Copper Country in 1916.

Be it further Resolved; That should the Michigan State Medical Society fail to accept the invitation of the Houghton County Society, that the Upper Peninsula Medical Society accept the invitation of the Delta County Medical Society to meet in Escanaba in 1916.

Resolved; That the Upper Peninsula Medical Society hereby heartily endorses the action of the Tuberculosis Committee of the Michigan State Medical Society in recommending August 20 to be "Tuberculosis day" and hereby request that all physicians examine all applicants free of charge on that day as recommended in the Proclamation of Governor Ferris.

Whereas; The members of the Upper Peninsula Medical Society feel that a closer relationship should exist between the Upper Peninsula Medical Society and the Michigan State Medical Society and,

Whereas; We believe this affiliation can be more firmly cemented by having one of our members as President of the State Society and,

Whereas; We feel that we have within our ranks an untiring and faithful supporter of both Societies whom we believe would fill the office with credit to himself and honor to the Fraternity.

Be it Resolved; That this Society heartily indorse Dr. A. W. Hornbogen of Marquette for the office of President of the Michigan State Medical Society for 1916.

Officers nominated and elected:

President—Dr. Robert Bennie, Sault Ste. Marie.

First Vice President—Dr. Robert Walker, Menominee.

Second Vice President—Dr. John MacRae, Calumet.

Secretary to be elected by local Society entertaining U. P. Society next year.

MEMBERS REGISTERED.

Marc A. Fournier, Soo.
 J. H. Charters, Mackinac Island.
 J. G. Turner, Houghton.
 J. H. Carstens, Detroit.
 B. D. Harrison, Detroit.
 A. S. Kitchen, Escanaba.
 C. L. Finch, Marquette.
 O. G. Youngquist, Marquette.
 J. V. Yale, Soo.
 A. H. Miller, Gladstone.
 F. Townsend, Soo.
 F. H. Husband, Soo.
 C. Willison, Soo.
 J. J. Griffin, Soo.
 R. Bemmer, Soo.
 E. H. Webster, Soo.
 J. Sicotte, Michigamme.
 J. MacRae, Calumet.
 A. L. Lawbaugh, Calumet.
 Wm. Elliott, Escanaba.
 A. V. Braden, Ishpeming.
 H. W. Long, Escanaba.
 J. J. Lyon, Soo.
 R. S. Buckland, Baraga.
 H. H. Loveland, Republic.
 R. C. Winslow, Soo.
 A. W. Hornbogen, Marquette.
 A. McCandeles, Soo.
 R. D. Scott, Rudyard.
 J. R. McRae, Soo.
 A. F. Fischer, Hancock.
 H. H. Ptolemy, Trenary.
 J. A. Cameron, Pickford.
 E. H. Campbell, Newberry.
 R. E. Stocker, Brimley.
 T. McQuaid, Soo.
 H. M. Cunningham, Marquette.
 C. J. Errnis, Soo.
 W. J. Geleson, Soo.
 W. T. Dodge, Big Rapids.
 F. C. Warnshuis, Grand Rapids.
 F. C. Bandy, Newberry.
 J. A. Ferguson, Soo.

The Schering and Glatz firm announce increased difficulty in securing importations from Germany and as a result of this inability to supply the trade they have discontinued their extension work and will

confine their efforts to supplying the needs of their old customers. Their "ad" will be discontinued with this issue.

Dr. Wm. DeKleine, formerly of Grand Haven, but now of Ann Arbor where he has been pursuing a course in public health work, has been selected by the State Board of Health to assume charge of the tuberculosis work in this state.

Press information imparts that Dr. A. A. Spoore is now in charge of the State Laboratory at Lansing and that Dr. M. L. Holm has been transferred to the branch laboratory in Houghton.

Dr. Ralph Apted of Grand Rapids has recovered to the extent that he is able to be out. He expects that a few weeks will again find him in active practice.

Dr. C. J. Larson of Negaunee has been elected full time health officer of that city at an annual salary of \$2,400.00.

Dr. Harry A. Haze of Lansing has been appointed a member of the Board of Control of the State School at Coldwater.

Alma is planning a Good Health Week commencing October 3. Dr. C. B. Gardner is Chairman of the Committee on Arrangements.

The next examinations to be held by the Board of Registration will be conducted in Lansing October 12, 13 and 14.

The Detroit College of Medicine and Surgery will resume its lectures on September 22. Registrations and matriculations are to be made on the 20th.

The State Anti-Tuberculosis Society holds its annual meeting in Grand Rapids Sept. 4 and 5.

Dr. L. C. Kent of Onaway has sold his practice to Dr. F. W. Wastel.

Dr. Warren Smith and Mrs. Hattie Rouse of Berrien Springs were married on July 29.

Dr. H. T. Evans of Milford has been elected president of the local school board.

County Society News

EATON COUNTY MEDICAL SOCIETY

The regular meeting of the Eaton County Medical Society was held July 29, 1915 at the Palace Theater, Grand Ledge. Following the business meeting, the following scientific meeting was held:

1. "Early Diagnosis of Tuberculosis."

William Northrup, M.D., Grand Rapids.

Discussion opened by H. Stanka, M.D., Grand Ledge.

2. "Pulmonary Pathology as Viewed by the Roentgen Ray."

P. M. Hickey, M.D., Detroit.

(Illustrated by lantern slides.)

Discussion opened by Chas. Stimson, M.D., Eaton Rapids.

3. "The Sanatorium Treatment of Tuberculosis."

E. B. Pierce, M.D., Howell, Mich.

Open to General Discussion.

The next regular meeting will be held at Olivet Sept. 30, 1915.

G. M. BYINGTON, Secretary.

GRAND TRAVERSE-LEELANAU COUNTY

The regular monthly meeting of the Grand Traverse-Leelanau County Medical Society was held on Tuesday evening, August 3, at Dr. Holdsworth's office. The meeting was called to order at 8:30 by the Vice President, Dr. H. Thurtell.

Dr. J. J. Brownson, of Kingsley, read a paper on "Diabetes Mellitus," and Dr. H. Thurtell, of Traverse City, read a paper entitled "Diseases of Pigmentation."

Robert E. Flood, M.D., of Northport, was elected to membership.

The Society accepted the invitation of Dr. J. D. Munson to hold its next regular meeting at the Traverse City State Hospital.

W. D. MUELLER, Secretary.

LAPEER COUNTY

The Lapeer County Medical Society held an annual picnic at Cedar Point Landing, Lake Pleasant, on July 13. A chicken pie dinner was served by the ladies. About forty attended the picnic. The following program was carried out:

"Infant Feeding."

B. Raymond Hooker, Detroit.

"Report of His Trip as Delegate to A. M. A. Meeting, San Francisco."

H. E. Randall, Flint.

D. J. O'BRIEN, Secretary.

Book Reviews

EXERCISE IN EDUCATION AND MEDICINE. By R. Tait McKenzie, A.B., M.D., Professor of Physical Education, and Director of the Department, University of Pennsylvania. Octavo of 585 pages, with 478 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$4.00 net; Half Morocco, \$5.50 net.

Four years progress has called forth a second edition of this publication. It has resulted in such a complete revision that it now becomes a most important reference work and manual for physicians, gymnasium instructors and all who are interested in the application of exercise in physical development and the correction of deformity as well as for the treatment of constitutional abnormalities and disease. To all such it is a most useful guide and instructor. Would that the general profession exhibited more interest in the subject. The opportunity for reliable and authentic enlightenment is here presented. We bespeak a cordial interest in the author's work. It is fully meritorious.

DIARRHEAL, INFLAMMATORY, OBSTRUCTIVE, AND PARASITIC DISEASES OF THE GASTRO-INTESTINAL TRACT. By Samuel G. Gant, M.D., LL.D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum, and Anus at the New York Post-Graduate Medical School and Hospital. Octavo of 604 pages, 181 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth \$6.00 net; Half Morocco \$7.50 net.

The writer's name at once commands attention. We are at the outset assured of a valuable treatise. Our expectations are realized. This text presents to students and practitioners a complete and very practical treatise that fully covers the etiology, pathology, symptoms, diagnosis and treatment of acute and chronic diarrhea and allied infections as well as the diseases consequent upon gastro-intestinal parasites. It is arranged in logical, convenient form and thus becomes a most useful reference work—a want that has long been felt and now realized.

Chapter XLVIII consists of twenty pages of useful formula. Chapter L consists of forty pages descriptive of surgical indications.

All in all the volume is a most valuable addition to our literature and is thus assured to meet the wants of many practitioners.

OPERATIVE GYNECOLOGY. By Harry Sturgeon Corsesen, M.D., F.A.C.S., St. Louis. Cloth, 670 pages,

770 illustrations. Price \$7.50. C. V. Mosby Co., St. Louis.

This work is devoted exclusively to operative gynecologic treatment. It is primarily a work on technic and as such it fully meets up to the author's object. The writer does not content himself with imparting the technic of a single man, but describes accurately the accepted operative procedure of several recognized methods in the attack of a given condition. For illustration, in discussing the retro-displacements of the uterus twenty different methods of correcting the displacement is understandingly described. Likewise in prolapsus uteri and bladder twenty-six procedures are advanced. Thus is there imparted a similar broadness of range in the discussion of all the subjects of this volume. Each chapter closes with a very sane discussion as to the indication for each method and the cases in which a certain method is most efficacious. The whole text is admirably illustrated by 770 original illustrations of logical and sequential arrangement.

This book is bound to receive a most cordial reception. Its intrinsic value forces every surgeon to possess it.

MODERN ASPECTS OF THE CIRCULATION IN HEALTH AND DISEASE. By Carl J. Wiggers, M.D., Assistant Professor of Physiology in Cornell University Medical College. Octavo, 378 pages, illustrated with 104 engravings. Cloth, \$3.75 net. Lea & Febiger, Publishers, Philadelphia and New York. 1915.

Those who have followed the reports of Professor Wigger's careful investigations will welcome the appearance of this volume which places before them in convenient form much material of the utmost value, hitherto unavailable save in detached articles, and additional matter, heretofore unpublished. By the profession at large it will be not less appreciated as a clear presentation of all that modern science has achieved in a most important field.

This work, however, is in no sense a compilation from previously published articles, but a complete statement of the definite knowledge acquired through individual research work extending over eleven years, and a contemporaneous study of the most extensive literature of the subject. Most of the material derived from the author's investigations is here presented for the first time. The author shows the ways in which the application of laboratory methods at the bedside and in the clinic has led to the elucidation of many obscure conditions, the recognition of new diseases and the institution of new forms of treatment. As requisite to a grasp of its

phenomena in disease the most modern conception of the normal circulation is presented in clear detail. While emphasizing the fact that nothing can be substituted for the power of accurate observation Professor Wiggers makes plain that many phenomena of both the normal and abnormal circulation escape the detection of the unaided senses, and thus opens the way for an extended consideration of the various instruments and procedures for studying the circulation, translating and recording their findings. This is no mere catalogue of instruments and apparatus, but an elucidation of procedures, of interpretations and of the use of apparatus. The definite and discriminating appraisal of the value and limitations of the apparatus now available is in line with the wise conservatism with which the author treats each aspect of a subject, on which his entire view-point is essentially modern.

Data obtained by laboratory investigation of abnormal conditions are usefully co-related with the results of instrumental observations at the bedside and with conceptions derived from unassisted clinical observations. In the final analysis this is an enlightening reference work and text in a complicated subject and a practical guide in the use of instrumental aids in diagnosis. Certainly a work essential to every practitioner.

A VISION OF TRUTH. THE SOUL'S AWAKENING. A Story by Alelaide Walther. Published by the Author. 302 pages. Leather and cloth binding. Special De Luxe edition. Grand Rapids, Mich.

This attempt the author admits was inspired after witnessing a very interesting play. It consists of a story that is built around several principals and the proverbial hero and heroine. The reader is rapidly carried from scene to scene with the principals enacting or discussing the author's cherished ideals, her interpretation of a few psychological fundamentals as well as her comments upon social and civic life with a very evident admixture of occult laws and psychic phenomena. The hero of the story, a clergyman who resigns from his charge to engage in the teaching of a new faith at the solicitation of his dying mother, is clothed with a supernatural power of healing and the relieving of sickness and human ills.

On the whole it is a fanciful story rather cleverly written. Upon laying the book aside one cannot help but admit that he has spent several interesting and entertaining hours. However, the final deduction and conclusive impression is that the "Vision" has failed and lacks practical application. Its greatest good lies in the pleas that are made for a purer social life and the teachings of the fundamentals of

sexology to the boys and girls in their early teens.

While many of our readers may not wholly agree with Mrs. Walther's views on religion, she presents the latter in a manner which evidently is devoid of a desire to antagonize unnecessarily those who may hold different views. But in working out the theme of her story she uncovers basic and tragic truths, a more common understanding of which would make for more complete happiness and a general betterment of the race. Mrs. Walther announces special introductory prices for her novel and the net proceeds are to be devoted to work for the blind, the work itself being dedicated to Roberta A. Griffith, President of the Michigan Association for the Blind, and author of the bill passed by the Michigan Legislature for the prevention of blindness.

THE MEDICAL CLINICS OF CHICAGO. Volume I. No. 1. (July, 1915). Octavo of 208 pages, 37 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year. Paper, \$8.00. Cloth, \$12.00.

In presenting to the profession the Medical Clinics of Chicago we are responding to a demand by the physicians in all parts of the country, for a work of this character coming at regular intervals.

It will be recognized that we have secured the clinics of some of the best clinical teachers in Chicago in every department of Internal Medicine, including Neurology, Pediatrics, X-Ray Therapy, etc. We hope in this way to give the profession in each number a series of cases representing all branches of internal medicine which shall be word photographs of the actual up-to-date management of each case in its important phases by the attending physician.

These records of diseases will be gathered at the bedside of patients and in the amphitheatres of the leading hospitals of Chicago, and will include, of course, the histories, examination, description of diagnostic methods, treatment and such other data as will be desirable to afford the reader a complete and satisfactory understanding of the subject.

This first number speaks for itself, and we hope will prove a correct interpretation of our understanding of the needs and desires of the doctors of this country—both the general practitioner and the specialists—for a series of actual clinical teaching in the field of internal medicine.

The second number, among other things, will contain clinics on Tuberculosis Meningitis in Children (with full description of the Permanganate of Potash Test), by Dr. Isaac A. Abt; Heart Disease in Pregnancy and the Indications for Therapeutic

Abortion, with a full discussion of the question of marriage in relation to each type of cardiopathy in both the male and female; also a clinic on Infantile, with complete classification and discussion of the role of the internal secretions, by Dr. Frederick Tice; the first of a series of clinics on the subject of Neuritis in its various phases, by Dr. Ralph C. Hamill; the first of a series of clinics dealing in particular with The Diagnostic and Prognostic Systemic Disorders, by Dr. Richard J. Tivnen; Duodenal Ulcer and Gastric Carcinoma, by Dr. Charles L. Mix; X-Rays in Epithelioma, by Dr. Wm. Allen Pusey, etc., etc.

ALVEOLODENTAL PYORRHEA. By Charles C. Bass, M.D., Professor of Experimental Medicine and Foster M. Johns, M.D., Instructor in the Laboratories of Clinical Medicine at the Tulane University Medical College, New Orleans, La. Octavo volume of 167 pages, with 42 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth \$2.50 net.

This work presents in a simple and concise way a discussion of the specific cause of pyorrhea, its progress, the damage produced and the specific treatment. Pyorrhea is no longer a disease of interest to dentists alone. Its baneful results are further reaching and fall in the domain of both surgeon and practitioner. Therefore the author's work will prove to be of material assistance to dentists, physicians and the public at large. As such it is cordially commended.

THE TREATMENT OF FRACTURES. With Notes Upon a Few Common Dislocations. By Charles L. Schudder, M.D., Surgeon to the Massachusetts General Hospital; Associate in Surgery at the Harvard Medical School. Eighth Edition, Revised and Enlarged. Octavo volume of 734 pages, with 1057 original illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Polished Buckram, \$6.00 net; Half Morocco, \$7.50 net.

The author and publishers present the profession with the eighth edition of a volume that has long been recognized as authoritative. This new edition fully covers the recent advances in the treatment of fractures. The principle of the autogenous bone-

graft in delayed and non-union is fully discussed. Many new illustrations are used. New material has been added to fractures of the jaw, acetabulum and on the greater tuberosity and separation of the epiphysis of the femur.

Thus is the work rendered more valuable. As we have stated before, no physician or surgeon should permit himself to forego owning this work, it is absolutely essential to them.

THE CARE OF THE BABY. By J. P. Crozer Griffith, M.D., Professor of Diseases of Children in the University of Pennsylvania. Sixth Edition Thoroughly Revised. 12mo. of 463 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$1.50 net.

A most useful and practical manual for the management of infancy and childhood in health and in disease. A work that every physician should recommend to parents. It belongs in every home where there is an infant or a child. It is one of the few reliable books that may be unreservedly recommended to parents. It tells the mothers in simple, straightforward language how to care for her baby in health and disease.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania, Lecturer on Medicine in the University of Pennsylvania. Tenth Edition. Revised. 12mo. of 629 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Flexible Leather, \$2.50 net.

This is the tenth revised edition and a most serviceable ready *reference book* for desk use.

1914 COLLECTED PAPERS OF THE MAYO CLINIC, Rochester, Minn. Octavo of 814 pages, 349 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth \$5.50 net; Half Morocco \$7.00 net.

These collected papers are so valuable, so characteristic of the accepted practices of the day and so authoritative that this volume at once becomes a most necessary work for every practitioner and surgeon.

APPLIED IMMUNOLOGY. The Practical Application of Sera and Bacterins Prophylactically, Diagnostically and Therapeutically including an appendix on Serum Treatment of Hemorrhage, Organotherapy and Chemotherapy. By B. A. Thomas, A.M., M.D., Professor of Genito-Urinary Surgery in the Polyclinic Hospital and College for Graduates in Medicine; Instructor in Surgery in the University of Pennsylvania; Associate in the William Pepper Laboratory of Clinical Medicine and R. H. Ivy, M.D., D.D.S., Assistant Instructor in Surgery in the University of Pennsylvania; Instructor in Genito-Urinary Surgery in the Polyclinic Hospital and College for Graduates in Medicine. Octavo. 380 pages. 73 illustrations. Cloth, \$4.00.

The vast majority of works on the subject of "Immunity" are exhaustive treatises on the experimental and theoretical phases of the subject and are often unintelligible and of little value to the average practising physician.

In this book the authors purposely omit most of the experimental research and present theories only in so far as they may assist in a more thorough comprehension of biological prophylaxis, diagnosis and therapeutics.

The primary object has been to crystallize and detail the practical phases of serum and bacterin applications in medicine, thereby enabling the student and general practitioner, with even a slight laboratory experience, to appreciate the significance of, and more competently apply the principles underlying immunology. In order to render the treatise more complete allusion has been made in places to certain allied substances that have been utilized from time to time in attempts at immunization, with a consideration of their merits and demerits.

The interest and close association of blood transfusion, organotherapy and administration of salvarsan and neosalvarsan to the main subject, have prompted the authors to devote an appendix to their discussion.

SIMPLIFIED INFANT FEEDING with seventy-five illustrative cases. By Roger H. Dennett, B.S., M.D. Adjunct Professor of Diseases of Children, New York Post-Graduate Medical School; Attending

Physician of the Children's Department, New York Post-Graduate Hospital; Assistant Attending Physician at the Willard Parker Hospital and the Red Cross Hospital, New York. Octavo. 316 pages. 14 illustration. Cloth, \$3.00.

This is the only purely clinical book on Infant Feeding on the market, and it actually simplifies the subject for the general practitioner. This book does not deal with theories or generalities, but gives explicit directions for dealing with specific cases, with 75 case histories, and is not merely a resume of the literature but a personal book.

A physician not caring to make an extensive study of infant feeding can look up the treatment in this book for any particular case in a very few moments, and instead of telling a dozen different things that a physician might do, this book points out one course of treatment which the author has found successful. The author's opinion is decidedly expressed, and he uses complete case histories to illustrate each point, enabling anyone to follow the treatment from day to day.

In the past four or five years the whole method of Infant Feeding has changed. The present method of using simple milk, water and sugar mixtures is much easier both for the physician and mother or nurse, and better results are obtained by following Dennett's "Simplified Infant Feeding."

MODERN MEDICINE. Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by Sir William Osler, Bart., M.D., F.R.S., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal; and Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia; Fellow of the Royal College of Physicians, London; formerly Associate Professor of Medicine in Johns Hopkins University, Baltimore. In five octavo volumes of about 1,000 pages each. Volume V. Diseases of the Nervous System; Diseases of the Locomotor System. Just ready. Price per volume, cloth, \$5.00, net; half morocco, \$7.00,

net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

Notable both because of the intrinsic value of its contents and in that its publication marks the completion of this monumental work on practice is Volume V of Modern Medicine. With the appearance of each volume in rapid succession the impression of supreme value, of logical completeness and of ultimate authority, has been strengthened. Modern Medicine as a completed work presents the ripe experience and practical knowledge of the English-speaking race in every department of medical practice in original articles selected and co-related with masterly ability.

In Volume V diseases of the Nervous and Locomotor Systems are considered. In the assignment of space and the selection of the authorities best qualified to present the various subjects from the most advanced viewpoint, the distinguished editors again demonstrate their exceptional qualifications for their task. The list of contributors of original articles is itself the best characterization of the work, comprising, as it does:

Lewellys F. Baker, M.D., LL.D., Johns Hopkins; Edwin Bramwell, M.D., F.R.C.P., Royal College, Edinburgh; Chas. W. Burr, M.D., University of Pennsylvania; E. Farquhar Buzzard, M.D., F.R.C.P., London; L. Pierce Clark, M.D., New York; Joseph Collins, M.D., New York; Harvey Cushing, M.D., Harvard; George Dock, M.D., Washington University; Charles P. Emerson, M.D., Indiana University; Gordon M. Holmes, M.D., M.R.C.P., London; Smith Ely Jelliffe, M.D., Ph.D., New York; Daniel McCarthy, M.D., University of Pennsylvania; Thomas McCrae, M.D., F.R.C.P., Jefferson Medical College; Colin K. Russel, M.D., McGill University; Bernard Sachs, M.D., New York; C. C. Southard, A.M., M.D., Harvard; William G. Spiller, M.D., University of Pennsylvania; Walter R. Steiner, M.D., Hartford; Edward W. Taylor, M.D., Harvard; Henry M. Thomas, A.M., M.D., Johns Hopkins.

The importance of every subject touched upon and the supreme value of the volume as a whole as an authoritative representation of present-day practice in a department, in which recent progress has been most striking, renders the selection of any individual contribution for special mention extremely difficult.

However, to the contributions of Spiller on Diseases of the Motor Tracts, Bramwell on Sclerosis of the Brain, Sachs on Syphilitic Diseases of the Central Nervous System, Dock on Osteomalacia, Jelliffe on Hysteria, and Collins on Aphasia, must be conceded an exceptional importance.

ESSENTIALS OF LABORATORY DIAGNOSIS. Designed for Students and Practitioners. By Francis Ashley Faught, M.D. Containing ten full page plates, four in color, and 58 text engravings. Fifth edition. Cloth, 450 pages. Price \$3.00. F. A. Davis Co., Philadelphia.

This is the fifth revised edition of a manual that contains the essentials of laboratory diagnosis for the working outline of methods for busy practitioners. It imparts reliable methods and enables him to carry his experiments to final reliable conclusions in the quickest time possible. As such it at once becomes a work that should be on his laboratory work bench. It is thus recommended.

THE PREVENTION AND TREATMENT OF INFECTIONS. By Oliver T. Ashborne, A.M., M.D., Professor of Clinical Medicine, Yale Medical School. Cloth, 233 pages. *Journal of the A.M.A.* publishers.

Our readers will be pleased to learn that there is now available, under one cover, an elaboration of the articles the author has written for the *Journal of the A.M.A.* and which appeared serially in that publication during the past year under the heading of the title given this book. It is a most valuable treatise and above all it is of practical value to the general practitioner. We are sure it will prove to be of usefulness to every general practitioner.

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume IV. Number III. (June, 1915). Octavo of 195 pages, 73 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year, paper, \$8.00. Cloth, \$12.00.

THE DUCTLESS GLANDULAR DISEASES. By Wilhelm Falta, Vienna, translated and edited by Milton K.

Meyers, M.D., with foreword by Archibald E. Garrod, M.D., London. Cloth, 673 pages, 101 illustrations. P. Blakiston's Sons & Co., Philadelphia. Price \$7.00 net.

We have here the faithful rendering of a German text of a very valuable book devoted to the clinical aspects of the diseases of the ductless glands. It is a clinical observation and study of the author's own cases in the first medical clinic in Vienna. The translator has rounded out the original text by including the accepted American and English holdings. As a result we have a text book that has raised the present status of ductless glandular diseases to the level that enables us to pronounce it an exact science.

Diseases of the ductless glands occupy a prominent position in present day medical thought and investigation. Much work and investigation has been done. The field remains still uncovered but this work places before the student and physician the results thus far revealed and their influence upon diseased conditions so that it at once becomes a valuable summary of our present day understanding of the subject.

The accurate and detailed description of the symptom groups will be found to be of immense value in the clinical management of cases presenting themselves for treatment. The compilation of the literature upon the subject increases the value of the work.

All in all this is a most valuable publication and agreeably welcome to the entire profession. It is bound to be accorded a most cordial and eager reception.

COLLECTED PAPERS FROM THE RESEARCH LABORATORY,
Parke, Davis & Co., Detroit, Volume 3, 1915.
Paper 341 pages.

The volume is a reprint of twenty-one papers published in various medical journals during the past year. The work upon which these papers are based was done in the Research Laboratory of the firm. As such they reveal the high standard of technic and scientific study that exists in this laboratory. It also records commendable labors directed toward the solution or classification of problems and facts that confront the profession.

It is a valuable collection of papers and the profession should avail itself of the opportunity of securing the book and thus profit by the study of the compilers commendable effort.

Miscellany

FRANK S. BETZ COMPANY EXPAND.

Considerable interest has been aroused in professional and trade circles by the rumor of changes in the personnel of the Frank S. Betz Co., of Hammond, Indiana. These rumors have been definitely confirmed by members of the Company. Mr. Frank S. Betz, who hitherto has been virtually the sole head of this large business, has felt the need of active assistance in the management of the affairs of the concern, and especially to carry out plans of extension along the many lines in which the company is interested. As a result, a coterie of business men, including many high in the financial and business world, have purchased a large interest in the company; and extensive plans are being formulated for the general extension of the business in every branch. Mr. Betz naturally remains with the company as President and Chairman of the Board of Directors. The changes will not affect the policy of the concern as to its methods of manufacturing and selling goods, but the infusion of new blood will mean greater activities and further extensions in every way.

The growth of the Frank S. Betz Co. is another illustration of the remarkable success that can be achieved by a man of untiring energy and devotion to his work. He has built up this large business practically unaided, without the assistance of outside capital or borrowed money. It really represents the earnings of his original investment.

The new members of the firm are fortunate to align themselves with an established business house that has never carried a dollar of indebtedness except current bills for merchandise. With such a reputation for financial integrity, the plans of the new management seem assured of success.

**DON'T FAIL
TO ATTEND YOUR
NEXT MEETING.**

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XIV

GRAND RAPIDS, MICHIGAN, OCTOBER, 1915

No. 10

Original Articles

PRESIDENT'S ANNUAL ADDRESS. THE PAST, PRESENT AND FUTURE OF THE MICHIGAN STATE MEDICAL SOCIETY.*

REUBEN PETERSON, M.D.
ANN ARBOR, MICH.

We gather today at the fiftieth annual meeting of our Society. Since 1866 it has been the custom for the president to deliver an address, the subject to be of his own choosing. Mindful of the fact that this session marks the fiftieth milestone in our history, it seems fitting for your president to devote the time at his disposal to a discussion of the Society itself, its past, its present and its future. For it is essential that every now and then we take account of stock, to use a familiar expression, in order to see where we are, what we have accomplished and what we plan for the future.

Dr. Leartus Connor, in his presidential address at the Port Huron meeting in 1902, gave a most admirable review of the work of not only our present State Society but the medical societies which preceded it. In fact this review of state medical society work in Michigan during eighty-three years is so complete as to make the task of the present reviewer comparatively simple so far as medical historical research is concerned.

I have said that today we celebrate the fiftieth annual meeting of the Michigan State Medical Society. This is literally true since our present State Medical Society was founded at a convention of about one hundred representative physicians from all parts of the State held in Detroit, June 5, 1866. If we are to label our annual meetings we must begin with the year 1866 since there were no regular annual meetings in the previous state medical organizations. Still we must not be forgetful of our noble medical heritage. I believe Dr. Connor

was quite right in emphasizing the fact that our present State Medical Society dates back not to 1866 but to 1819 when the Michigan Medical Society without the "State" in the title was organized under territorial law. To be sure the members of this original medical society were few in number, but proportionally to the number of physicians in the Territory, it was a more representative society than is ours today. For it must be remembered that the Territory of Michigan contained very few inhabitants in 1819. In 1820 Detroit's population was 1,442. In 1827 it had increased to 2,000 about one-tenth of the population of the entire Territory. The latter was a wilderness of forest and prairie and the physician of those days could not practice his profession and be a weakling either physically or mentally.

In these days we hear a great deal about the medical steam roller and its work in our state and national medical societies. No doubt those interested in the machinery of these organizations see to it that it works smoothly with only now and then a break. We remember the criticisms and the shakes of the head over the reorganization of the American Medical Association in its relation to the state and county societies. But we of today are children in arms compared to the good old physicians who formulated and put through the territorial Act of 1819. "An act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in the Territory of Michigan." By virtue of this act the medical profession of the Territory could say who should begin the study of medicine and how it should be studied. The members of the Society passed upon an applicant's fitness for the practice of medicine and granted him a diploma or not as they chose. The act outlined how a person practising medicine without a diploma from the Society could be prosecuted and fined. It also provided for the formation of county medical societies and definitely stated their relation to the parent society. The more one studies this medical act the more one wonders that so

*Fiftieth Annual Meeting, Grand Rapids, Sept. 1-2, 1915.

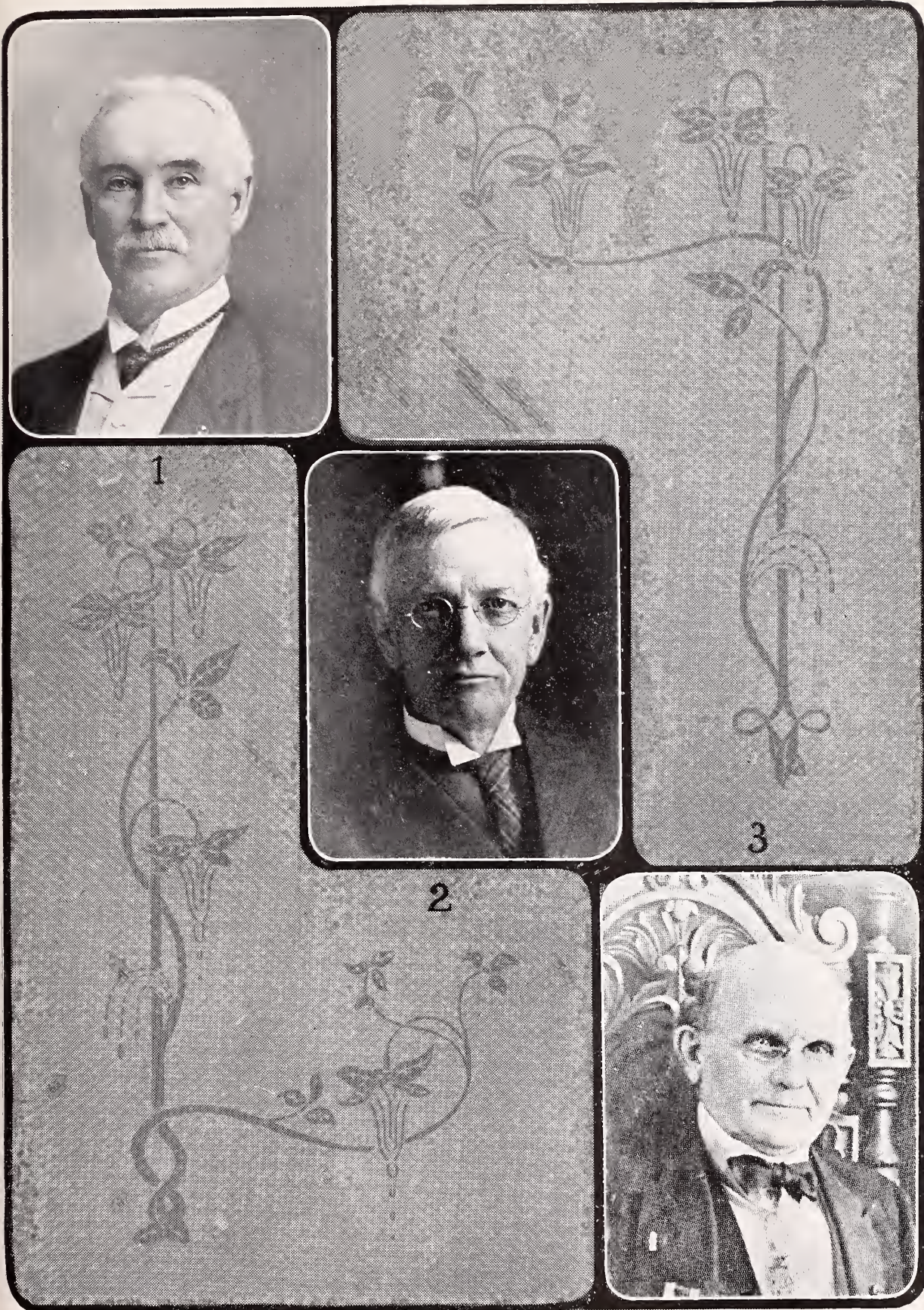
much power could have been delegated to a given set of men. Luckily for the candidate for a diploma from this all-powerful body, eugenics as a science was not as popular as now, else there surely would have been included a section prescribing the kind of women the applicant could marry and still be in good standing as a member of the society.

However, it is not my purpose to dwell upon this period of our history which has been described in detail by other members of this Society. I merely want to emphasize the lesson we of today can learn from the past which may help us in the future. Here was a body of physicians, intelligent, hard working, with high principles who started out with unlimited power to regulate the practice of medicine in their community. So far as we can judge by the records, they performed their task with credit to themselves, to the Territory and finally to the State. Why then were they shorn of their powers by successive amendments to the act until in 1852 the legislature abolished all medical laws? The profession of the Territory and the State had the power over matters medical and then lost it: Why? Does it not show that in our democratic form of government legislative enactments, whether relating to medicine or other human activity, must come from the people or at least be sanctioned by the citizens of a community whether it be a township, county or state to be effective and lasting? Here was a law all powerful and far reaching, working undoubtedly on the whole for the good of the State, gradually amended and finally repealed by a legislature, representative of the people of the State. In a way it is typical of hundreds of laws on our statute books coming not from the people nor in reality sanctioned by them, but drawn up in the study by one man or a group of men. But it may be argued these men know more than ignorant legislators and their ideas should prevail. Is this true? Some times it seems so but I am doubtful. During the last legislative session, by virtue of being your representative, I was privileged to attend the hearing on the district health bill. It was an interesting experience. To any thinking man, especially if he be a physician, there is no ground for argument on the merits of this bill. Well trained, well paid, full time district health officers would be of the greatest benefit to the State and be the means of saving thousands of valuable lives annually. Against this bill were lined up all sorts of irregulars as we are pleased to classify them. I listened in amazement to their arguments against the bill.

It did not seem credible that they could carry weight with any intelligent human being. I do not know whether they did or not but I afterwards learned that the bill was doomed from the start. Politics you will say. That is a word to conjure with, a bogey with which to frighten the ignorant. If democracy is fundamentally the best form of government and not merely a word, politicians and politics will have to yield to what is right. This right may not be as we see it. After all we may be wrong and the other fellow right. There is no need to preach this truism to physicians. We do the best we can in diagnosis and treatment but in all humility the honest ones acknowledge they may be wrong. This does not weaken our capacity for fighting for what we believe to be right. It simply consoles us in defeat and makes us ready to take up the fight again. If we as a profession are correct about this district health bill it will certainly be sanctioned by the people and become a law. Nor will the sneers of those who say they have us beaten before we begin, prevail.

For aught I know the members of the first medical society in the Territory and State were convinced they were in the right and fought to retain their perogatives. Certainly if we interpret the records of the Society correctly they were no mollycoddles and were perfectly capable of caring for themselves and the profession they represented. Yet they were badly worsted by the irregulars whom the people of the State must have sided with, since in 1852, as before stated, all medical legislation was annuled and the Society died. Even in the early history of the State the people were apprehensive of monopoly in any form, and inclined to do away with it. The medical law of 1819, if not in fact, had the appearance of granting undue privileges to a certain class. Hence it was not difficult to persuade the representatives of the people to do away with all medical legislation and give the public the privilege of selecting whom they chose to minister unto their bodily ills.

After all it was wise that such action was taken for it cleared the way for the profession, on its own initiative, independent of the State, to take steps to perfect its own organization and start on the long campaign of showing the people that all public health legislation is for the State as a whole and not designed to aid physicians, only as they are citizens of the State. It has been difficult for physicians to grasp this fundamental idea. Even now, after years of experience of the folly of working for class



1. H. B. LANDON

2. THEODORE A. McGRAW

3. GEO. R. RANNEY

Sole Surviving Charter Members

legislation, we hear the old cry of uniting to protect the medical profession against the encroachments of all sorts of matters antagonistic to the interests of physicians. Such a slogan never has and never will get us anywhere. It will neither give us protection nor raise us in the estimation of the public who will place ours in the same category with other callings, members of which are more interested in their own advancement than in the welfare of the public. If indeed we be members of a noble profession, we must show it by our actions which will distinguish us from others who are more inclined to advance their own selfish interests, irrespective of the rights of others. As will be pointed out later the principal opposition existing today against the adoption of all health measures we advocate lies in the fact that not as yet have we entirely convinced the State that our profession unlike any class in the community is working against its own selfish pecuniary interests in striving for enactments which will prevent and cure disease. So unusual is this that the representatives of the people are still wondering if any health measure advocated by the profession just where is concealed the joker.

Our Society as we know it today really began March 30, 1853 when a number of physicians met in Ann Arbor and formed a State Medical Society. As has been stated, this was a voluntary association of physicians from different parts of the State founded primarily for the advancement of medical science, through the recording of individual observations and the mutual exchange of ideas relating to professional matters. At first it was known as the Peninsular State Medical Society but at the third annual meeting the name was changed and for the first time appeared the words which mean so much to us, "The Michigan State Medical Society." With such a name the Society should have had a prosperous existence, but such was not to be since the Society languished from non-attendance and finally expired in 1860. Expired is hardly the word to use in this connection. It did not die, for a society with the magic words "The Michigan State Medical Society" can never expire. It can peacefully sleep for a few years as it did at this period, but die it never has and never will, since it represents the principles, work and aspirations of the physicians of this State, the peers, to speak modestly and not as we really believe, of any in the country.

We must remember the times and conditions under which this Society was founded. The

State was still unsettled, means of communication were few, so that traveling from one part of the State to another was time consuming and a hardship. At the first meeting of our Society held in this city in 1873, Dr. Charles Shepard in his address of welcome speaks of the length of time Grand Rapids had been isolated, thus limiting personal acquaintance with other members of the medical profession throughout the State. And this was twenty years after the beginning of the second period in the history of our Society. More or less bitter animosities existed between the members of the profession and they were not so willing to meet together as are we today. Medicine and surgery had not received the impetus of the wonderful discoveries and advances which came two or three decades later inaugurating the era of scientific medicine and making it the most fascinating of callings. All honor then to the men who started this Society and worked for its welfare. Circumstances, not the workers, were responsible for its quiescence from 1860 to 1866.

Moreover, it must not be lost sight of that the approach of the Civil War, that great crisis in the history of our country, probably was one of the principal reasons for lack of interest in the new State Medical Society. Once the war had begun even a flourishing medical organization would have been temporarily abandoned just as is happening today in the great world war. It is even conceivable that in the presence of a great war when the fate of the country was hanging in the balance and the minds of all fixed upon one paramount object, the victory of our arms, even the meetings of this Society might temporarily cease. I do not say such a thing would necessarily happen but it might, for the great body of Michigan doctors, as in the Civil War, would be at the front and those whom force of circumstances compelled to remain at home might have other meetings apparently more important than that of the State Society. On the other hand the State Medical Society in the event of a great national crisis, through the proper organization perfected in advance in co-operation with the State and National governments, might be made invaluable as an agent for the general good. In that case our annual meetings would be supplemented by as many other meetings as might be necessary to carry on the work at hand.

The organization in the second period of the history of our Society had certain marked differences from the Territorial Society of 1819. The work of the latter society was entirely



1. CYRUS B. STOCKWELL 1866
2. JAMES H. JEROME 1867
3. WILLIAM H. CAMP 1868
4. RICHARD INGLIS 1869

5. IRA H. BARTHOLOMEW 1870
6. HOMER O. HITCHCOCK 1871
7. ALONZO B. PALMER 1872
8. EDWARD W. JENKS 1873

executive, having to do with the regulation of the practice of medicine in the Territory and State. The Society in the second period not having such powers naturally busied itself in what after all is of more vital interest to the majority of physicians, the interchange of ideas through the medium of papers upon and discussion of medical topics. In the transactions of the Society published in the *Peninsular Medical Journal* appear such articles as "Diseases of the Vesiculæ Seminales," "Blood Letting," "The Michigan Itch" et cetera, titles which might appear on our programs today without giving rise to comment. On the other hand other articles on the weather conditions and epidemics are now taken care of by special bodies.

The Society was distinctly alive to the public health of the State. It urged haste in the completion of the asylums for the deaf, dumb and blind and the insane; it showed the importance of laws requiring and providing for the thorough registration of births, marriages, and deaths occurring in the State. Even at this early date it showed its interest in the medical department of the State University by adopting resolutions urging higher preliminary education of applicants for admission and supplementing this by advice to physicians about care as to the qualifications of students admitted to their offices.

Of special interest to me is the recommendation adopted in 1859 relating to the advisability of establishing a State General Hospital in connection with medical department of the University. The necessity for such a hospital was well set forth in the presidential address of Dr. J. A. Allen of Kalamazoo in the following words: "But besides the two classes of patients there provided for (the deaf and dumb and the insane) there is another which almost equally demands the interest of the profession and the public care. This class is scattered throughout every part of the State, many of them in county poor houses but mostly in the families of those of scanty means not yet thrown upon the public bounty but gradually and surely approaching that finale. Disease and infirmity render them helpless and poverty prevents them from availing themselves of the means of recovery. For all these the State Hospital would afford a welcome retreat and it is not hazardous to say the general cost of their support would be very materially lessened. Aid which now must be constant and permanent would thus become but temporarily necessary."

Wise and prophetic indeed were these words.

Think of the immense relief to the sick and the suffering, consider the total gain to the State could these wise and humane recommendations have been immediately put into effect. But this was not to be. Other views regarding the clinical years of the medical department of the University were urged upon the profession with the result that years were spent in acrimonious and futile discussion. The whole question now is a mere matter of medical history and only important at this time as illustrating the tendency to fail to appreciate the wisdom of our contemporaries. Fifty-six years after Dr. Allen's words, in 1915, his recommendations have been carried out in the laws of the State. It is now possible for the judges of probate to refer at state or county expense to the hospital maintained by the University any poor patients who in their judgment can be benefitted by hospital treatment. By means of the law of 1915 the judges of probate can in their judgment see that the class particularly referred to by Dr. Allen is cared for—"the class scattered throughout the State—mostly in families of scanty means not yet thrown upon the public bounty but gradually and surely approaching that finale."

The third period in the history of our Society began June 5, 1866 when in pursuance to a call to the profession about one hundred physicians representing different parts of the State met in convention in Detroit to organize a state medical society. Dr. Morse Stewart of Detroit in his address of welcome to the convention called attention to the fact that in neglecting to keep up their state medical organization the profession had "failed to promote properly, the advancement of medical science, individual growth and development and through these the great and ultimate object of our profession, the welfare of society." Again, a little later in the address occur these rather significant words, "how, with an almost oppressive sense of personal responsibility, in view of the relation which our profession sustains to the well being of man, and with hearts expanded by an enlarged charity so as to exclude individual selfish aims, should we enter upon the duties which are before us. I doubt not, gentlemen, that under the promptings of such feelings you have assembled here and that your deliberations will be marked by harmony and so conducted as shall tend to the increase and diffusion of medical knowledge amongst us." I may be mistaken in the interpretation of these remarks and if so I hope to be corrected by the speakers who are to follow, but it seems as if we ought to be



1. ROBERT C. KEDZIE 1874
2. WILLIAM BRODIE 1875
3. ABRAHAM SAGER 1876
4. FOSTER PRATT 1877

5. EDWARD COX 1878
6. GEORGE K. JOHNSON 1879
7. GEORGE W. TOPPING 1882
8. ARVIN F. WHELAN 1883

encouraged at the change in the spirit of the profession toward one another fifty long years after these words were uttered. No one today would make the plea for harmony the dominant note in an address to our Society. In many things we may have failed, many things in relation to our Society still can be improved, but today we are working harmoniously. Personal animosities and jealousies will always exist in any body whose members are ambitious and alive, but no one can gainsay that they have been reduced to a minimum in our Society.

So far as I have been able to ascertain there are only three members of this 1866 convention now living. These founders of our present Society, Theodore A. McGraw of Detroit, George E. Ranney of Lansing and Henry B. Landon of Bay City, are with us today, the first two to follow me on the program. Hence it would not be fitting to dwell longer upon the beginnings of this third period of our Society when the facts can be more authoritatively presented by those actually on the scene. It remains for me to enumerate some of the things accomplished during this period, 1866 to 1902, up to the time the Society was re-organized on the plan outlined by the American Medical Association.

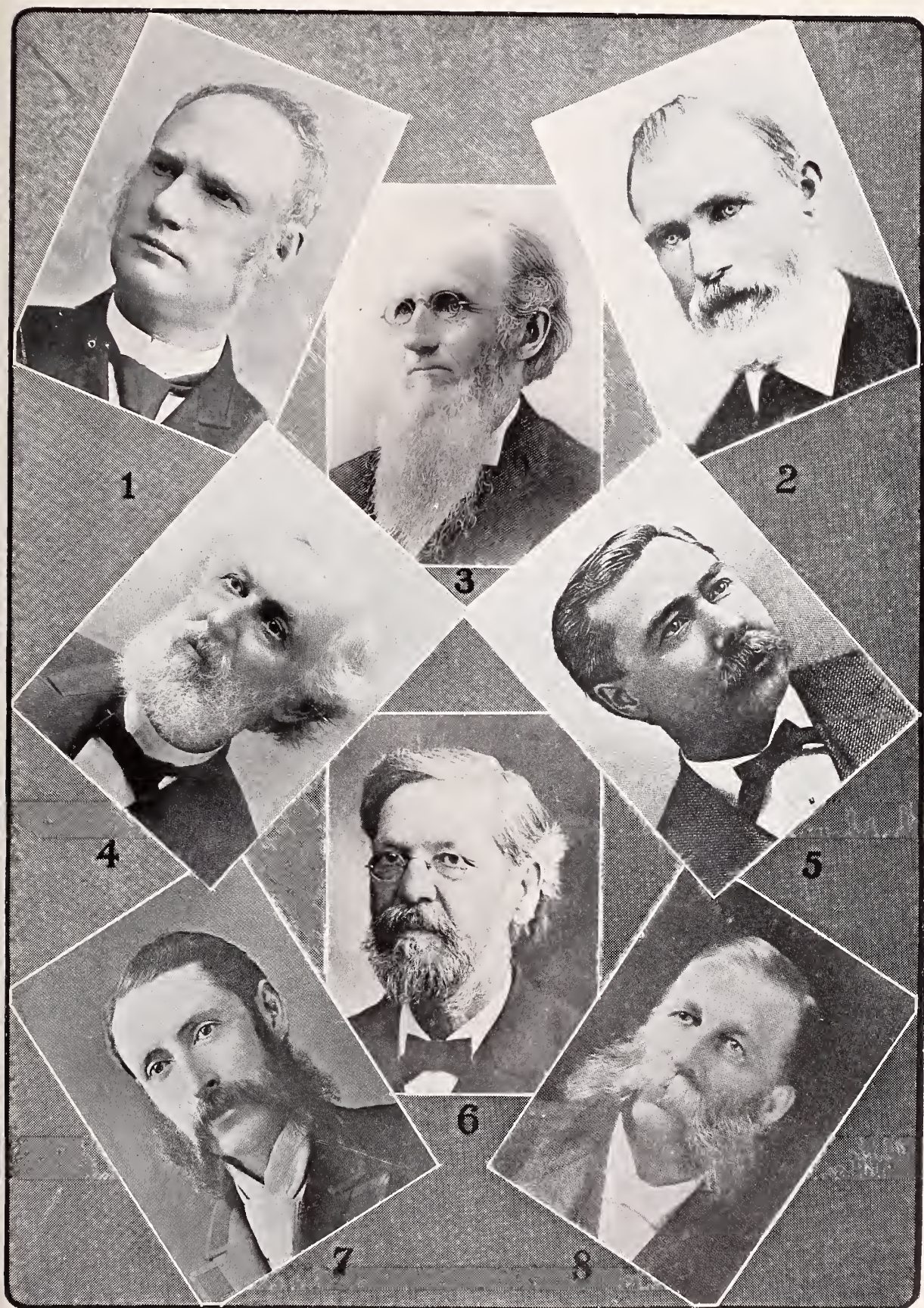
I beg of any one who thinks this Society has accomplished very little in the past fifty years, to take the time to run through the transactions of the Society. Not only has the Society reflected the best and most advanced medical knowledge of the time, but it has inaugurated and carried to successful completion practically all of the important medical movements within our State. From 1853 the Society has through its committees carried on the campaign to secure proper registration of births, deaths and marriages until at last success crowned such efforts and placed Michigan's vital statistics among the best in the country. Lack of time prevents me from going into the details of this work and naming the individual members of our Society who have long and unselfishly worked for this and other medical matters of inestimable value to the health of Michigan. Would that another medical historian like Connor would appear among us and cull from our transactions the record of this Society's achievements in matters of health so important to our State. These should be compiled in such a form that the public could have easy access to them, so arranged that the people would be convinced once and for all that the Michigan medical profession has had high ideals and has worked and will labor in the future for the welfare of the State.

In the early history of our Society the proper care of the insane commanded much attention and we find records of committee reports and committees appointed to wait upon the governor, to urge haste in the erection of the buildings for the insane. All this is past history now for the asylums for the insane, although full to overflowing, are so organized that they can take care of their legislative needs. In their time of need, however, they were glad indeed to turn for help to this Society.

The establishment of the State Board of Health would have been postponed to a much later date had it not been for the efforts of this Society. Individually and through committees the members of this Society labored from 1870 to 1873 until in July of this latter year the bill for the establishment of the Board passed the legislature mainly through the efforts of a former president of this Society, Dr. I. H. Bartholomew of Lansing, who represented Ingham county in the legislature with the avowed purpose of securing the passage of the bill. The majority of the members of the Board have been members of our Society and therefore have felt free to ask our co-operation in the splendid work inaugurated and carried on by the Board since 1873.

It is rather curious to follow the course of medical legislation in this State. From 1852, when the old Territorial Act was finally repealed, up to 1883 there were no legislative restrictions to the practice of medicine in the State. During this period our Society was not idle but somewhat discouraged since we find in the transactions in the reports of the committees on legislation that they had accomplished so little and been treated with such scanty courtesy by the legislature that they asked that the committees be abolished. Later on the tone of the reports entirely changed and the committee on legislation reported to the Society what it had accomplished, where it had failed but what it hoped to do and what should be done in the future. That they did stick to it is shown by other amendments to and gradual improvements in the medical registration acts, up to the present very efficient law. The benefits resulting from the registration law have been immense, not only to the profession but to the people who have profitted most through the regulation of the educational requirement for the practice of medicine in the State.

The activities of the Society during this period were not by any means confined to legislative matters. As a perusal of the annual volumes of transactions will show, the members of the So-



1. DONALD MACLEAN 1884
2. EDMUND P. CHRISTIAN 1885
3. CHARLES SHEPARD 1886
4. SIMON S. FRENCH 1888

5. GEORGE E. FROTHINGHAM 1889
6. LYMAN W. BLISS 1890
7. CHARLES J. LUNDY 1892
8. HENRY O. WALKER 1894

ciety were alive to the advantages offered through the free interchange of ideas on medical topics. The papers and discussions up to the re-organization of the Society in 1902 on the whole are of a high order and creditable to any state medical organization. The scientific part of the transactions improved as the sectional and personal verbal fights among the members decreased. Mighty contests were waged at the annual meetings over matters apparently trivial today but of great importance in the old days when perhaps the motto of our Society should have been similar to that of the now defunct Chicago Academy of Medicine, "When you see a head, hit it."

In 1877 was seen the beginning of the present system of sections for the reading of papers and discussions. Four committees were appointed on papers and subjects for discussion in the following: Practice of medicine, materia medica, physiology and public hygiene; surgery, anatomy and gynecology; ophthalmology. However, the papers continued to be read in general session until 1887 when the sections, practically as we have them today, were organized except that ophthalmology and otology seemed to have lost out. Although the papers read before the sections and the added interest as shown in the discussions demonstrated beyond question the advantage of the new system of sectional work, not all members were satisfied. Some wanted to go back to the good old times when a doctor could hear all the papers at a meeting and not have to choose which section he would attend. Then began the contests among the specialties with the usual result that obstetrics was thrown at the section of the practice of medicine, then returned with thanks to the section on gynecology which said "if I must keep you, hereafter the section must read, gynecology and obstetrics." But the system of work by sections has proved immensely valuable and must be employed in any large medical organization if the time of the annual meeting is to be fully utilized.

As early as 1881 it was advocated that the transactions be abolished and the papers and discussions published in a state medical journal. But the Society was not ready for the project, which was undoubtedly a wise decision since such a journal before the reorganization of the Society in 1902 would have been a financial failure. I merely mention the matter here to show that like all changes in the Society, this idea of a state medical journal was not born in a minute but had been considered for years before the project was consummated.

The same may be said of the reorganization of the Society with the county society as the unit of the state organization. Like many others, I presume, I had thought that the reorganization of the state medical societies was a scheme worked out by the powers that be in the American Medical Association, to strengthen that organization. That certainly was the impression I had of the 1902 meeting of the Society. I was for the reorganization for I could see its advantage but it left me with the impression that I had been told to vote for something new and specially prepared for the occasion. A perusal of the transactions shows that it was nothing of the sort. The reorganization of the State Society along the lines of a delegate county society body had been discussed in the Society frequently from the year 1885. I am making a public confession of my ignorance of what was going on for a distinct purpose. In the twelve years from 1890 when I joined this Society until 1902 when it was reorganized, if I was working along different lines, if I was more interested in working out other problems, I had no right to criticize silently or openly those who were working on what interested them, which has turned out immensely advantageous for all of us.

As we review the last period of the history of this Society, 1902 to 1915, it is possible to see what has resulted from the reorganization of the profession. The Society has become an efficient organization. Time formerly wasted in fruitless discussions by speakers poorly prepared is now profitably consumed by the qualified delegates of the county societies. So accustomed have we become to this system that we forget what an improvement it is over the old. The work of the executive committee or council has demonstrated that men can be found who will give freely of their valuable time for the general good. In fact it is unnecessary for me to dwell further upon the superiority of our present organization, fully described many times before.

One of the chief purposes of the reorganization movement has been accomplished, the desirability and necessity for the practitioner in good standing to belong to his county, state and national medical associations. Once it was shown that this was advantageous, the State Society increased by bounds from a membership of 500 to 2,300, 72 per cent. of the eligible physicians of the State. At first the meetings of the newly organized county societies were well attended and much interest was manifested in the papers and discussions. Gradually, however,



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| 1. HUGH McCOLL 1896 | 4. AUSTIN W. ALVORD 1899 |
| 2. JOSEPH B. GRISWOLD 1897 | 5. PHILO D. PATTERSON 1900 |
| 3. ERNEST L. SHURLEY 1898 | 6. LEARTUS CONNOR 1901 |
| 7. WM. F. BREakey 1903 | |

the interest seems to have waned until by our Secretary's last report we see that ten county societies held no meetings last year, apathy being given as the principle cause of such failure. Our energetic Secretary, Dr. F. C. Warnshuis, is trying by various means to remedy the existing state of affairs. However, I wonder if the solution of the whole question does not lie in a later remark in the same report: "It is wholly impossible for your Secretary to visit every county society." The implication is that he thinks this should be done and leads to the consideration whether the time has not come for this Society to consider the desirability of having a full time, amply paid Secretary. We are advocating this for district health officers when it is proposed the State pay the bills. In connection with the editing of the transactions of the Clinical Society of the University of Michigan printed in the *Journal* of our Society I have been in quite intimate touch with our Secretary. I am amazed at the amount of good work he is able to accomplish with all the other things he has to do, but this is due to the man and not to the system. Our Society is more than a group of physicians who meet once a year to discuss papers. It is a business organization as well with many ramifications. The evolution and present machinery of the American Medical Association is a good illustration of what I mean. Formerly the Secretary and Editor gave only a part of his time to the work. This became impossible after the reorganization. Interested as we are in the national organization we are perhaps more interested in our state and county organizations and should be. Has the time arrived for a full time secretary? I merely raise the question. It is for you to give the answer.

The future of this Society need give us no concern provided we do the work at hand to the best of our ability and do not rest content but plan for the future. Always we must bear in mind that it is the young men upon whom the burden will eventually fall to carry on the good work. Let those of us past the meridian of life ever remember that we need have no fear. The younger generation since the beginning of time has proven equal to the task and the history of our Society will prove no exception.

In conclusion I desire to state that my real contribution to this meeting is the gathering together of the likenesses of the deceased ex-presidents of this Society. That such a task was necessary has been shown by the labor involved in securing some of the photographs. As the lantern slides appear on the screen let

us all remember that these are some of the men who have labored for this Society during the past fifty years. Were they with us today they would rejoice at our present prosperity and prospects of the future. Honoring them as representatives of the others who have joined them is the best way of celebrating the fiftieth annual meeting of this Society.

DECEASED EX-PRESIDENTS MICHIGAN STATE MEDICAL SOCIETY 1866-1915.

Cyrus M. Stockwell, 1886, Port Huron; 1823-1899. Founder. Surgeon Civil War. First President, 1866. Pioneer physician and surgeon, St. Clair County. Ingenious, able and conservative surgeon. Far in advance of his time in his knowledge of hygiene and sanitation. Regent of the University 1865-1872. Illustrious father of an illustrious son, Charles B., president, 1906.

James H. Jerome, 1867, Saginaw; 1812-1883. Founder. Twice president of the Society, 1867 and 1881. Professor of anatomy and physiology, Geneva Medical College, 1855. Man of vigorous intellect and retentive memory. Forceful in debate, and ever ready to uphold the ethics of the profession. Of great service to the Society in its early days.

William H. DeCamp, 1868, Grand Rapids; 1825-1898. Founder. Surgeon and Medical Director, Civil War. Able surgeon, especially in the mechanics of the art. Conducted researches in concology, mineralogy and botany. Through his studies the immense salt industries of Michigan were made possible.

Richard Inglis, 1869, Detroit; 1821-1874. Professor of obstetrics, Detroit College of Medicine, 1870. One of the leading physicians and consultants of Detroit and Michigan. Illustrious father of an illustrious son, David, president, 1905.

Ira H. Bartholomew, 1870, Lansing; 1828-1889. Of great aid to the Society in its early days: represented Ingham County in the Michigan Legislature for the purpose of securing the establishment of the State Board of Health in which effort he was successful. Besides being an able physician he was public spirited in many ways, being three times elected mayor of Lansing.

Homer O. Hitchcock, 1871, Kalamazoo; 1827-1888. Surgeon Civil War. Man of unusual general culture and professional attainments. Organized and was president of Michigan State Board of Health, 1873-1877. Of

great service to the Society in debate and committee work. Illustrious father of an illustrious son, Charles W., able Secretary of the Society 1890-1895.

Alonzo B. Palmer, 1872, Ann Arbor; 1815-1887. Surgeon Civil War. Professor of anatomy, materia medica and therapeutics, University of Michigan, 1852-1860. Professor of pathology and practice of medicine 1860-1887. Brilliant lecturer and able teacher. Editor and author of note. Man of high principles and of great service to the Society and the University.

Edward W. Jenks, 1873, Detroit; 1833-1903. Professor of obstetrics and diseases of women, Detroit College of Medicine. Distinguished gynecologist; skillful operator and able teacher. One of the founders of the American Gynecological Society. Member of and honored by many local and national societies.

Robert C. Kedzie, 1874, Lansing; 1823-1902. Surgeon Civil War. Professor of chemistry Michigan Agriculture College. Distinguished scientist and member of many learned societies. Member of original Michigan State Board of Health, where he served eight years, contributing many valuable articles on sanitary matters. Of great service to the Society in its early days.

William Brodie, 1875, Detroit, 1823-1890. Surgeon Civil War. Skillful surgeon. Editor and contributor of many valuable articles to medical literature. President of American Medical Association in 1886. Forceful in debate and ever ready to fight for what he believed to be right. Energetic and persistent worker for the Society.

Abram Sager, 1876, Ann Arbor; 1810-1877. Founder. Distinguished scientist, able physician and teacher. Professor of botany and zoology, University of Michigan 1842-1850. Professor of obstetrics and diseases of women and children 1850-1874. Learned in many fields of knowledge. His contributions to the Society are most scholarly and scientific. A man of high principles, universally admired and respected.

Foster Pratt, 1877, Kalamazoo; 1823-1898. Surgeon Civil War. An able speaker and born leader of men. Public spirited physician and citizen. Secured the legislative appropriation, the first one of any considerable size in the history of the State, for the establishment of the Kalamazoo Asylum for the Insane. Of great service to the Society in its early days.

Edward Cox, 1878, Battle Creek; 1816-1882. Pioneer physician of Battle Creek and one of

its most honored citizens. A man of great personal and professional integrity. An able physician and a faithful friend.

George K. Johnson, 1879. Grand Rapids, 1820-1908. Surgeon, Medical Director and Inspector Civil War. A man of unusual ability in many fields. A fine type of the old school physician, always courteous and kindly. An able, conscientious and conservative surgeon. A general practitioner who had few equals. A loyal friend, ever ready to aid the younger members of the profession.

A. J. Thomas, 1880, Bay City. Unable to obtain likeness in time for meeting. If secured will be published later in *Journal*.

James H. Jerome, 1881, Saginaw. Second time elected president of the Society.

George W. Topping, 1882, DeWitt; 1828-1895. Founder. A man held in high esteem by his professional brethren and by the laity. Active in the work of the Society in its early days.

Arvin F. Whelan, 1883, Hillsdale; 1831-1890. Surgeon Civil War. Pioneer physician of Hillsdale and held in great esteem by his confreres and the public. A high type of physician and surgeon, a hater of shams and a most eloquent advocate of anything calculated to promote the highest interests of the people and profession.

Donald Maclean, 1884, Ann Arbor. Detroit; 1839-1903. Surgeon Civil and Spanish American Wars. President American Medical Association 1894. Professor of surgery, University of Michigan 1872-1889. A renowned surgeon. A forceful writer and speaker, an able teacher. Quoted and referred to by hundreds of his students whose love of surgery was due to his enthusiasm.

Edmund P. Christian, 1885, Wyandotte, 1827-1896. Highest type of country practitioner. Author of many valuable contributions to medical literature especially upon obstetrical topics in which he was specially interested. An original observer and investigator who kept excellent records of his cases. A well spent life during which thousands received help.

Charles Shepard, 1886, Grand Rapids; 1812-1895. Pioneer physician of Western Michigan. Able and ingenious surgeon especially capable in gynecology and abdominal surgery. A studious, well read man and valued consultant.

Simeon S. French, 1888, Battle Creek, 1816-1910, 94 years. Surgeon and Medical Director Civil War. A much loved and respected physi-

cian and surgeon. Strong in his convictions and loyal to the cause he espoused. Served his city and county in many capacities through many years.

George E. Frothingham, 1889, Ann Arbor, Detroit, 1836-1900. One of Michigan's earliest and most celebrated ophthalmologists and aurists. Held a number of chairs in the University of Michigan but was best known as a teacher of ophthalmology. A fearless fighter for what he thought right, an able debater and the author of many valuable articles in medical literature.

Lyman W. Bliss, 1890, Saginaw, 1835-1907. Surgeon Civil War, one of the most prominent physicians and surgeons of Saginaw. President of the Saginaw Valley Medical College. Honored as a man, physician and citizen.

Charles J. Landy, 1892, Detroit; 1846-1892. Distinguished ophthalmologist. Professor of ophthalmology, Detroit College of Medicine. Elected to many important medical positions. Died from appendicitis shortly after his election at the early age of 46.

Henry O. Walker, 1894, Detroit; 1843-1912. Skillful and progressive surgeon. Successful teacher. Intensely active and interested in the work of this Society. Professor of surgery and secretary of the faculty Detroit College of Medicine. Author of many valuable medical articles.

Hugh McColl, 1896, Lapeer, 1844-1908. A skillful surgeon and excellent physician. A deep student and a man of remarkable memory. A most lovable man and a good friend. He was of great service to the Society, not missing an annual meeting in twenty-five years.

Joseph B. Griswold, 1897, Grand Rapids; 1842-1915. Surgeon and Medical Inspector Civil War. A good physician and a good citizen. Every physician in this city knew and loved Joe Griswold. No one will be missed more at this meeting. A capital story teller, witty yet never caustic. Always interested in medical meetings, in those of this Society especially, he would have greeted us with his old genial laugh could he have been spared.

Ernest L. Shurly, 1898, Detroit, 1846-1913. One of the founders of and professor of laryngology and clinical medicine Detroit College of Medicine. Pioneer in the fight against tuberculosis in this State. Prolific writer and author of a standard work in his specialty. Active in every movement to advance the interests of the profession.

Austin W. Alvord, 1899, Battle Creek; 1838-1915. Surgeon Civil War. A man of many activities, interested in everything tending to elevate the profession he loved. Professionally he was interested particularly in gynecology to which he contributed many admirable papers. He was a conscientious, conservative and successful operator. For many years a valued member of the Michigan State Board of Registration in Medicine. A kind and sympathetic friend whom we shall miss at the meetings of this Society to which he was so loyal.

Philo D. Patterson, 1900, Charlotte; 1843-1903. Served in the Civil War. Was a surgeon of marked ability and had a large surgical consultation practice. For many years took an active interest in the meetings of this Society. Was a man of force, and great natural ability.

Leartus Connor, 1901, Detroit; 1843-1911. Distinguished physician. Specialist in the diseases of the eye. Editor of a number of medical journals. Had much to do with the reorganization of the Society in 1902. Published a number of valuable contributions to the medical history of the State. Interested in the higher problems connected with medical ethics and education.

William F. Breakey, 1903, Ann Arbor; 1835-1915. Surgeon Civil War. Connected with the teaching force of the University of Michigan from 1868 to 1912. Established the department of dermatology at the University in 1891. Clinical Professor of dermatology and syphilology 1905 to 1912. Author of numerous articles on medical, scientific and other subjects. He never harshly criticized others but had a kind word for everybody. He was an able physician, a high minded gentleman, a loyal friend and an esteemed colleague.

THE MEDICAL SCHOOLS OF THE LAST HALF-CENTURY.*

THEODORE A. MCGRAW, M.D.

DETROIT, MICH.

Your president asked me four or five weeks ago to give some reminiscences before this Society from my experiences in practice during the last fifty years.

As those arising from my duties as a teacher of surgery have been to me the most important in my professional life, I have chosen to speak to you about conditions in medical education,

*Charter Member. Address General Session—Fiftieth Annual Meeting, M.S.M.S. Grand Rapids, Sept. 1-2, 1915.

which have nearly passed away. We have, during the last ten or fifteen years, entered upon a new and more scientific era, which differs widely from that in which I commenced my work as a practitioner and teacher, and for that reason it seemed to me well to try to convey, especially to the younger members of the profession, a just idea of the period just passed, and of the difficulties which for a long time retarded the development of our medical schools.

I thought at first that I could give my own experiences in a simple way and then let the matter rest, but the more I thought of the subject, the more it became obvious that, like all other social and economical conditions, those pertaining to medicine had roots which extended through the entire history of the human race and that to examine the subject thoroughly would require enormous investigation and labor. I can to-day, in the time allotted to me, give only a bare outline of relations which deserve a serious study.

Now the first thing which we have to consider as regards our methods of medical instruction is the fact that they did not originate in America but were a heritage from Great Britain. If we compare the system of medical education in vogue in England, Scotland and the United States at the close of our Civil War, we shall find that they were in every detail precisely similar, except perhaps in name. When a young man wished to study medicine in the old countries, he would become apprenticed to a medical practitioner for a period of three or four years and receive instruction from his master. In America, there had been a rebellion against the whole system of apprenticeship, but it nevertheless survived in medicine in a degenerate form under the name of preceptor and student. Combined with this custom was a system of private schools, for the further education of pupils who had means to pay the necessary fees. In neither the old countries nor the new, was the education of medical students regarded as a proper function of the state, for which the people should be taxed.

It is remarkable as regards England, the supreme neglect in which, until nearly the close of the last century, all educational matters were regarded by the government. England never taxed her people for any educational or charitable purpose. Her universities, public schools and great hospitals derived their means of existence either from foundations which dated from old monasteries or else from private contributions. In Scotland since the time of the reformation, every parish was required to sup-

port its primary school. It is fortunate that we inherited, in this respect, from Scotland instead of from England.

In England, just as in America, the medical schools were practically private schools, attached to the hospitals. Each school regulated its own functions and established its own standards, without regard to those of other similar institutions, and it was not until 1858, after a long and bitter struggle, that the government of Great Britain consented to so far recognize their existence as to regulate their methods.

In Scotland there was a medical school attached to the University of Edinburgh and one to that of Glasgow, but it seemed to be free to any medical man to found a school of his own, even though he lacked all hospital connection. Thus Lister had a private medical school in Edinburgh. When given a position in a London hospital, he turned the school over to Syne. When the two quarreled over the emoluments, Syne established a school in Broad Street, in company with some other medical men, but two years afterwards formed still another school and hospital in Minto Street, to abandon it in turn when called to the Chair of Surgery in Edinburgh University.

The great Lord Lister began his professional career by starting a private school of surgery. It must be noted that these two famous surgeons were contemporaries of my own. I think it is worth while, when we recall the severe criticism with which the so-called proprietary schools of the United States have met of late, to remember that they have come to us from abroad and are associated with great names in medicine.

In the United States, immediately after the Civil War, all of the medical schools in the Union, except one or two, belonged to private corporations. There was only one, as far as I can find, which owed its origin and, to a limited extent, its support to a state, and that was the University of Michigan.

The University of Michigan was, however, at that time an anomaly, with no counterpart unless it be the University of Virginia; for all of the other great institutions of learning like Yale, Harvard and others, were private corporations. It is only when we take a wide view of things that we can begin to understand the influences which determined the character of our medical schools.

I may best illustrate the condition of medical education before and, for a long time, after the Civil War by chapters from my own experience. I began my medical studies in Germany, but

was called home in 1862 on account of the Civil War. I was advised to finish my undergraduate course in the New York College of Physicians and Surgeons, which had at that time, the best reputation of all of the American schools. I found, to my amazement, that admittance to the College, as regards educational qualifications, was nearly free to all comers. In the graduating class were men who had spent their first two years of study in a preceptor's office. Every one was obliged to take two courses of lectures, but as each course was only four months long, the two could be taken in one year, one in a summer school and the other in winter. There were no obligatory laboratory courses, except that of anatomy, and all instruction was given by didactic lectures. There was no division of classes, and men who spent three years in the same medical school were obliged to listen three times to the same talk. There was no personal clinical instruction, but clinics were held, common to all classes, in large amphitheatres.

I received my degree in 1863 and immediately entered the army. On returning home from the army in 1865, I began practice in Detroit, and in 1869 took part, with others, in founding the Detroit College of Medicine as a summer school. In 1871 I was invited to occupy the Chair of Surgery in Michigan University, during the session of 1871, and had occasion to study in that institution, the conduct of a state institution by state authorities.

I found in Michigan University exactly the same methods of instruction as those that I have described of the New York College of Physicians and Surgeons, with one exception. It will always be a credit to our state, that at a time when all other medical institutions limited their instruction in chemistry to didactic lectures, the school at Ann Arbor insisted upon a practical course in the laboratory as a requisite for graduation. I have always regarded it as one of the happy events of my life that when a literary student in the University in 1858-1859, I was influenced by Professor Douglas to enter his laboratory for practical instruction.

I cannot forbear here to express my great and lasting admiration for a man who, more than any one else, founded scientific work in Michigan University and was, nevertheless, unjustly dismissed from his chair.

My experience in Germany made me extremely dissatisfied with American methods, and I entered upon many discussions with my university colleagues about possibilities of improvement. It soon became evident that the Faculty,

composed of men of great personal integrity and of high cultivation, were all anxious to change conditions, which were intolerable. Ann Arbor was, at that time, a small village, and the University teachers could not add much to their meagre salaries by outside practice. All of the medical schools of the United States required for admission a primary school education, but unfortunately all were accustomed to take that for granted. The Faculty of the Department of Medicine of Michigan University desired most earnestly to insist upon higher qualifications in its matriculates, but feared lest it would diminish the classes and consequently the revenue. They would have liked to divide and grade the classes, but there was not income enough to pay the extra professors.

The clinics were small and very unsatisfactory. I had as surgeon, enough material for a weekly clinic, but had no proper place to treat patients after operation. If the Medical Department was to continue in Ann Arbor a hospital was urgently necessary, but the state refused to grant the means. I soon found out that the State of Michigan, while pretending to teach medicine, did nothing of the kind. It offered the Regents the use of certain buildings for that purpose, but means of conducting the institution must be obtained from the fees of students, and as the fees were extremely small, the classes must be large if the school were not to die of inanition. It is hard for those who are acquainted with the great University of Michigan as it is today to realize, what time, labor and education it required to make the people understand that it was impossible to carry on a great institution of learning without money. I discussed the matter with legislators. The stereotyped reply was, why should the people be taxed to educate doctors? To the laity, the Medical Department of the University, with its two or three hundred students, was considered a great success. Why not let it alone? The reason for this attitude on the part of the people was their inability to understand the necessity of changing long habits of thought. It was something unheard of, in England, Scotland and America, to tax the people for such purposes. Besides, the average intelligence of the communities was not equal to the evaluating matters of higher education. There were at that time no high schools, and the Universities and Colleges were, without exception, merely very indifferent high schools masquerading under more imposing names. It was impossible to get laws passed which would regulate practice, and the streets were full of practitioners who had

no understanding whatever of medicine. The advertising quack was held, often, in much higher admiration than the learned physician.

It is not to be wondered at that such a people should become impatient of importunity and should try to find ways of satisfying such voters who, though in a small minority, insisted upon the public necessity of higher institutions of learning. The people of the United States practically solved the matter for a time by passing general laws which permitted the easy establishment of all kinds of colleges. It was wonderful the unanimity of the American states in refusing to interest themselves in professional schools and in thrusting this duty upon individuals. While the laws of the various states differed in detail, their purpose and result was to encourage the formation of private corporations which would assume this function without expense to the government.

When the Detroit College of Medicine was formed, in 1869, the sole condition for acquiring a charter was a subscription of thirty thousand dollars, of which 20 per cent. was to be paid in. For these reasons, shortly after the Civil War the whole land became flooded with medical colleges. It is a very important question why nearly all of the most energetic and aggressive medical men of the time should have been willing to become involved in enterprises which could not be remunerative and which must demand great expenditure of force and money.

I venture to think that my own experience has had its counterpart in that of others who became interested in similar enterprises. I had discovered in my two years of army activity that I was deficient in that exact knowledge of anatomy that was essential to good surgery. The advent of antiseptic and aseptic surgery, besides, had opened a new field for operative work, that of the abdomen, which demanded a study of anatomical relations which had never been taught in the schools. The period was marked by the appearance of new operations which had been devised and perfected during operative work on the lower animals. It seemed to me to be imperative, if I were to advance in my profession, that I should have the facilities for dissection and other work that can be found only in a medical college and this, I believe, is the true explanation of the eagerness with which professional men seized upon the opportunity, afforded by the lax laws, to establish and conduct medical schools. There never had been a period in which the profession as a body had been so eager to investigate new chan-

nels of thought and never one in which so great advance has taken place in the same length of time. This could not have been accomplished as far as the United States was concerned, had not enthusiastic men provided themselves with facilities for study and experimental work. In addition to this, there was another reason in that universal desire to teach which has distinguished medical men ever since the time of Hippocrates. If we study the history of medicine we shall find that, almost without exception, its great men have been teachers. It has been the reward and the privilege of men who have, by original work in the profession, raised themselves above the crowd, to teach. If prevented by bigotry or jealousy from teaching in the schools, they will, like Ambrose Pare, find pupils in the profession.

There is no way in which a man can keep up his interest in his work and do his work so well as to obligate himself to teach. To teach is to learn, and it would be well for every member of the profession if he would spend some time in instructing students and the laity on subjects connected with his science and art. In my judgment, the medical schools have, during the past fifty years, been of enormous benefit, intellectually, not only to their Faculties but to the rest of the profession, as they have afforded a constant and necessary stimulus to original thinking. A great city without a medical school would have a crippled profession, for how can any man do his best work if deprived of necessary means?

RETROSPECT OF THE EARLY HISTORY
OF THE MICHIGAN STATE
MEDICAL SOCIETY.*

GEO. E. RANNEY, M.D.
LANSING, MICH.

To the recruit the campaign is still an unrealized achievement. The rigors of battle that must be fought are unseen in the roseate lights of the victory unconquerable youth knows must be his. But to us veterans even the joys of having fought our good fight do not dim our remembrance of the heights we have climbed and the foes we have met. And the lessons we have learned, how gladly we use them, if we may, to ease the path of those who must take up the banner of truth, after we have fallen.

I feel greatly honored on this occasion to be permitted to relate a few of my recollections as

*Charter member. Address at General Session—Fiftieth Annual Meeting Grand Rapids, Sept. 1-2, 1915.

a veteran practitioner of our great profession in this state, especially as these remarks will deal briefly with the organization and accomplishments of this honorable society, now in existence almost fifty years.

Time will not permit of my giving more than a brief sketch of the early history of this prosperous organization. I would that I might relate many of the events of special interest which I have witnessed with the fresh coloring of their first impressions. But before speaking particularly of this society, I beg leave to refer to the earlier territorial and state medical organizations.

On June 14, 1819, "An Act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in the Territory of Michigan" was passed by the Legislature and signed by the governor and judges of the territory—Governor Lewis Cass, and Judges A. B. Woodward and John Griffin.¹ This Act was re-enacted in the revision of 1827. (T. L. Vol. 2, page 420.), and again in the Revised Statutes of 1838 (p. 172) and the Revised Statutes of 1846 (p. 168).

The 1858 proceedings of the State Medical Society were published in the Michigan State Joint Documents of 1859, as Document 15, but no other publication of the society's proceedings was made by the state.

January 28, 1859 the following petition was made to the Legislature:

To the Honorable, the Legislature of Michigan:

At the annual meeting of the Medical Association of the State of Michigan, the following preamble and resolution was adopted unanimously; and the undersigned members of the Medical Association, and also members of this Legislature were appointed a committee to lay them before your honorable body, and to urge the adoption of the course indicated in the resolution.

Respectfully submitted,

Foster Pratt, M.D.
H. S. Buell, M.D.
Morgan Enos, M.D.
Jabez Perkins.
S. H. Sage.

WHEREAS—The transactions of this Society must contain much information relative to the preservation of health, and the prevention of disease which it will be important for the people of this State to have in their possession;

AND WHEREAS—It is unjust to require the medical profession at their individual expense to publish this information for the benefit of the State;

AND WHEREAS—Other Legislatures have recognized it as their duty to spread before the people, they represent, the valuable information

upon sanitary reform, gathered by organizations similar to ours, in their several states; therefore,

RESOLVED—That we respectfully request the Legislature now in session to inaugurate the practice of publishing as one of the State Joint Documents, the annual transactions of this body.

In compliance with the above resolution, the transactions of the Society or Association for 1858 were published by the Legislature, and according to tradition, a meeting of the Society was to take place at Ann Arbor in 1859, but a quorum was not present, and the Society died of inanition. The president of the Society for 1858 was J. Adams Allen, whose address appeared in the *Journal*.

Other papers appear in the *Journal* for 1858 as follows:

"Best Means to Legalize the Study of Anatomy." by J. C. Gorten, M.D.

"Topography and Diseases of Shiawassee County" by E. Leach, M.D.

"Report of Criminal Abortions" by E. P. Christian, M.D.

"On Ununited Fractures," by M. Gunn, M.D.

"Vital Statistics" by George Wilson.

"On Registration" by N. B. Stebbins, M.D.

"Report of the Committee on State Affairs in Favor of a Law for the Registration of Births, Marriages, and Deaths in Michigan." Report unsigned.

"Report of Committee on Disease and Topography in Ingham County" by G. E. Corbin, M.D.

In the latter part of March, 1865, I first met our distinguished friend, Dr. Theodore A. McGraw. He was quite young then, but was the chief surgeon of a hospital; in fact, he was the whole staff. The hospital was in the woods beside the road leading from the Tennessee river to Selma, Alabama. Dr. McGraw was with a command of Federal Cavalry that was engaged against the redoubtable General Forest. The famous confederate was contesting with his command the right of way with his accustomed dash and bravery, and though forced to retreat, he left some wounded federals. Dr. McGraw was ministering to their injuries the best he could with the facilities at his command. I remember that, among the wounded, was his own body servant.

From that time on, till some time after the war, Dr. McGraw did efficient and valiant service as a soldier, and we were pleasantly associated in our work with the Cavalry Corps of the Military Division of the Mississippi under Major General James H. Wilson.

I left the army in January, 1866 and came to Lansing. In May following I again met Dr. McGraw, when he called on me and told me of his plan to organize a Michigan Medical So-

1. Territorial Laws, Vol. 1, page 431.

ciety, and asked my co-operation in the work. He visited physicians at Grand Rapids and other places in this state to awaken an interest in the project, and through his efforts and his initiation, a call was made on physicians throughout Michigan to meet at Detroit on June 5, 1866, to organize the society. So I wish to say in this connection, that I have always regarded Dr. McGraw as the man of all others responsible for the formation of the society, and in his presence to-day, I want to congratulate him, the society, and the State of Michigan on his splendid work and the eminence he has attained and the achievements he has wrought as a surgeon, as a teacher, and as a citizen.

The worst thing I ever knew Dr. McGraw to do was to nominate me as the secretary of the Society, in which capacity I served twenty years. Would, for the good of the Society, a better man has been selected.

I recall that in my efforts to get the co-operation of some other physicians in the organization of the society, it was predicted that it would cease to exist after two or three meetings. But we had our regular and special meetings our serene and harmonious sessions; our somewhat excited and stormy gatherings but every year marked the progress of the Society. As the warring and commotion of the elements without and around us tend to purify the same, so the seeming evils that beset our Society at one time or other, not only tended to purify it, but were incentives to harder work and greater accomplishments, and the society grew from strength to strength until it became as strong and influential as any state society in the Union, not excepting those in New York, Pennsylvania, Ohio and Illinois. Our society furnished a number of presidents to the American Medical Association and stood for the honor, dignity and pride of the profession.

We met in Detroit, according to the call, June 5, 1866. A committee consisting of Drs. A. Platt of Grand Rapids, S. G. Armor of Detroit, Wm. Wood of Grand Rapids, G. E. Ranney of Lansing and Andrews of Niles, was appointed to draft a constitution and by-laws, and I acted as secretary of that committee. The society was organized and Dr. Moses Gunn was made temporary president and Dr. Axtell of Flint was appointed temporary secretary. Dr. C. M. Stockwell of Port Huron, then a regent of the University, was elected president for the ensuing year.

At that time the profession was in a chaotic condition in Michigan, which had become the dumping ground for the abominable heretics and

aliens of the profession. Anyone could practice medicine and there were the self-styled hygienists, electropaths, astrologers, steam doctors, magnetizers, equalizing doctors, cancer cure doctors, clairvoyants, seventh son doctors, and others of that class too numerous to mention. They were the medical molochs of the day, roaming over the country seeking whom they might devour.

That was a generation ago, but the outcroppings continue to this day. There was a class of hopelessly ignorant laymen and physicians opposed to vaccination, which confers absolute immunity from small pox. Those obstructionists opposed not only vaccination and disinfection, but the quarantining of scarlet fever, and declared diphtheria non-contagious. But the sanitary conventions held under the auspices of the State Board of Health in different places throughout Michigan, did much to overcome this prejudice.

In Lansing, up to 1874-5 there were annual and sometimes semi-annual outbreaks of typhoid fever and its calamitous effects were appalling.

It was my privilege in 1874-5 to write articles, published in the transactions of the State Board of Health and elsewhere in the latter year, first demonstrating and proving the fact that contaminated water was the prolific cause of typhoid fever. Certain physicians at the time, pooh-poohed my well sustained and demonstrated facts, and unwilling to be guided toward progressive and scientific medicine and sanitation, tossed their heads in derision and said I had "water on the brain." Not so with Dr. Homer O. Hitchcock of Kalamazoo, then president of the State Board of Health. He wrote me asking that I furnish him my views upon the matter that he might discuss them in his annual address.

Incidentally it was our honored society that urged and procured the passage of a law establishing the State Board of Health, and under the auspices of Dr. Henry B. Baker, as secretary, it became one of the most efficient boards in America. The Michigan Board became a pattern for other state boards largely through his efforts, and if I were to name the most useful man to Michigan, at that time, I would name Dr. Baker.

The Society procured a law providing for the registration of births, marriages and deaths; and Dr. Cressey L. Wilbur, whom I am proud to say, studied medicine with me, was made chief clerk of vital statistics, and his work was so efficient that it was made a standard for others boards. But in the turn of the political

wheel, he was so embarrassed in his work he could not continue in his office with honor to himself, and so resigned, as I encouraged him to do, telling him that he could not hide his work under a bushel, and that he would be called up higher.. Soon the authorities at Washington made him the chief vital statistician of the United States and today he is the easy leader as vital statistician of the world.

The state society and its individual members used its best efforts to procure a law for the regulation of the practice of medicine in Michigan. At every regular session of the Legislature spirited efforts were made in that line, and on two occasions bills passed both houses, but were both vetoed by the governors. But the society still continued to exert itself. Our best teachers in medicine and this society held to strict medical ethics, and these teachings entered into the alembic of the mental and moral nature of the profession and engendered a deep and strong conviction in the minds of the public, so that for their own protection and for the general weal of the people, urged that a law should be passed to regulate the practice of medicine; and their representatives in the Legislature finally enacted the present law, which has driven hundreds, yes, thousands of aliens of the profession, the flood-wood, mentioned earlier in my remarks, from the state, and it has helped to bring in closer union the great democratic brotherhood of legitimate medicine. So I suppose there is not a member of this society, or any other kindred society in the state that would pretend to treat disease with but one class of remedies to the exclusion of all others. We all adopt every means of cure, let it emanate from what source it may or militate against whose theory it may; and all recognize that medicine occupies no neutral ground but that doctor and patient alike must bow to the *vis medicatrix natura*; and when it cures give it credit without meanly filching from nature's good name by attributing the cure to the wonderful potency of our drugs. I venture to say there is not one-fourth the amount of medicine prescribed per capita by the profession there was forty years ago.

The sanitary conventions, held under the auspices of the State Board of Health did much to draw the line between scientific medicine and the practice of obstructionists, or hyphenated doctors, big with promise and pretence and who tended to vulgarize the profession. By preventive measures armies may be rendered immune to disease more destructive than the minnie ball, the cannon or the bomb shell. The

grim forces of war that brought in its wake smallpox, yellow fever and typhoid fever have been arrested and humiliated.

My attention has been called to an article in the August *Journal* of this Society, which says that up to 1902 it "was difficult for an ordinary man to become a member, that the membership was small, and had but very little influence on public questions." In reply to that statement I offer my emphatic protest and denial. From the organization of the Society to 1902, during which time I was as familiar as anyone with its work, I know that the doors of the Society were wide open for the cordial greeting and admission of every member of the profession worthy to become a member, under the wholesome and just rules of the code of the American Medical Association. As to the education of the public mind and its influence for good, I point to the work accomplished in conservative medicine and surgery; to the awakening among the people of a sentiment for preventive medicine and hygiene; the protection from communicable diseases; the better care of the insane; the establishment of a State Board of Health; a law for the registration of births, marriages and deaths, and the sentiment inculcated in the minds of the people, which forced the Legislature to enact a law to regulate the practice of medicine and the wiping out of diploma mills.

Now in drawing to a conclusion let me recall and by so doing, pay my tribute to others of that band of stalwart men with whom I was associated and came to love; men who glorified their calling, but who have answered the last bugle call; who opposed quackery with no sophistries, but with strong truth in harmony with the ideals of the medical code as against piracy and made their lives a prelude to a brighter day in medicine, holding honor, science and duty as the shining stars of our endeavor.

There was Zina Pitcher, the scientific scholar, courtly and dignified; S. G. Armor, the accomplished physician, essayist and gentleman; Gunn, the great surgeon; Foster Pratt, the diplomat and parliamentarian; William Brodie, the born leader; Jerome, the witty and ready talker; Homer O. Hitchcock, with his ponderous sledge hammer blows; the eminent physicians and surgeons, Frothingham and Maclean, Dr. G. K. Johnson, the courtly and accomplished gentleman; Dr. Rynd, the fluent and forceful orator; Dr. Leartus Connor, the distinguished physician and scholar; Dr. Robert C. Kedzie,

the great chemist. To these and many others I bow my head in silent reverence and thanks that I was permitted to labor with them.

Let us hope that the science of hygiene and preventive medicine may supplant the over-use of drugs; that great upheaval of the human mind that swells like the sea, may overwhelm ignorance and its concomitant evil; and that

moral science, based upon the revealed will of God, shall rule supreme; that the time may come when the bandage may safely be removed from justice's eyes, and that the severer penalties of courts will not need to be invoked; when mankind will be governed by the golden rule:

"Whatsoever ye would that men shall do unto you, do ye even so unto them."

THE DOCTORS ARE HERE.

Grand Rapids is happy today to have the physicians and surgeons of the state as its guests. The general public, in a measure, is only mildly interested in the discussions that are to be held during the ensuing two days, for the public does not understand the purely technical terms so much affected by the men of medicine. But the public has implicit faith in the doctor, to whom it carries its troubles, mental and physical, and from whom it so often receives counsel as much as physic.

It is quite a long cry from the bearded, serious-faced, absent-minded doctor of the olden days, to the natty, business-like physician of today. And by the same token the practice of medicine has undergone the same changes. The general, all-around practitioner is slowly being forced into the background by the specialist. And specialization goes on more and more. There is so much to learn now that no one human being can master more than a small portion of any kind of subject. And so we have as many specialists as there are parts of the human body.

Grand Rapids has specialists of every kind as its guests for the fiftieth convention of the Michigan State Medical Society. It hopes, while the doctor is having a good time here, he may also learn something worth while. His is a never-ending school, and only the physician with open mind, open eyes and open ears may expect to keep abreast of the times.—Grand Rapids News.

THE PLEASURE IS OURS.

There are few organizations of men of particular class or profession it should be a greater pleasure to honor and municipally entertain than those who will spend the greater portion of this week in Grand Rapids attending the fiftieth annual session of the Michigan State Medical Society.

These are the men to whom the most of us turn for comfort and healing when these physical bodies of ours are attacked by the lurking evils that so easily seize us. These are the men who know no hour or season when the cry of distressed humanity is not heard. They ministered to us as the doors of life were opening, and at the same time saved to us our beloved mothers who had gone down into the valley of the shadow to give us birth..

They have sat at the bedside of our loved ones when we knew that the slender thread of life would have been snapped but for their wisdom of the arts of healing gained through years of study and experience, and for the most part a sincere love of human kind,

Ah, yes, there are men of sordid temperament among these disciples of Aesculapius just as there are in all walks of life—but who cannot recall the scores of practitioners among their own acquaintance who are inspired by a sincere desire to alleviate the sufferings of their fellow men?

From the one who, after years of service to his fellows, has found it necessary to restrict his efforts to office duties, to the country doctor who rides through storm and heat and bitter winter cold, and to the heroes who go to the very battle front to alleviate the sufferings of the victims of war's dread wounds, they are all deserving of our esteem.

Michigan has given to the world of medicine many names that are writ high on the walls of fame and the commonwealth today boasts an army of that profession that is second to none other.

Grand Rapids has her own sons of Hippocrates who are widely known to fame and in the name of these and their associates we welcome the semi-centennial gathering of the Michigan State Medical Society.—Grand Rapids Herald.

FOR THE DOCTORS.

While our friends, the doctors, are in local convention session, there is one subject—recently brought pertinently to public notice—to which they might turn a bit of critical attention; and this is the subject of "expert medical testimony" in cases at law. There is no particular Michigan application to this comment. But the doctors are considering many general problems of general professional import and certainly there is no more inviting field for ethical reforms than in this field of "expert testimony." "American Medicine"—one of the strong papers of the profession—discussed the subject recently in the following paragraph, among others:

"While from the initial trial of Thaw the abuses of medical expert testimony have been so evident and flagrant as to disgust those who hate to see our honorable institutions prostituted by wealth," the article says, "it was the travesty of scientific medicine at the last trial that has aroused the indignation of those interested in the problem to a point that promises at last some definite action toward placing medical expert testimony on a basis that will enable it to accomplish its rightful purposes and free it from the suspicion and disrespect it now receives."—Grand Rapids Herald.

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, July 21, 1915

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

REPORT OF TWO TUMORS OF THE HEAD.

CYRENUS G. DARLING, M.D.

(From the Surgical Clinic, University Hospital, Ann Arbor,
Michigan.)

Mr. A. F., laborer 23 years old, was transferred to the Surgical clinic of the University Hospital from the Neurologic department on June 14, 1915. His chief complaint was numbness of the right hand and attacks of unconsciousness. His family history is very good. His parents are living and he has eight brothers and two sisters, living and well. He has had measles, but no other disease or infection.

Two months ago, while unloading coal from a car into a wagon, his right hand dropped to his side. There was some pain and loss of sensation. He was unable to speak for about one hour, then speech returned gradually and sensation returned to the hand. In this attack, he was not unconscious, nor did he feel any dizziness. Two weeks later, he was awakened from sleep during the night by a numbness in the right hand with shaking and tickling sensation. About twelve o'clock he went to sleep again and at five o'clock could not be awakened. He frothed at the mouth and showed other signs of a convulsion. That afternoon he was able to return to work and did not have another attack until four weeks later, when one occurred about one o'clock in the morning. He states that his hand went to sleep and shook and that later he became unconscious. He slept until four o'clock in the afternoon. He says that the spasm started in the right arm, then went to the leg and the body stiffened and when consciousness returned he found that he had bitten his arm. He felt sick to his stomach when he awakened from this prolonged sleep. The next

attack began at five o'clock in the morning with the same manifestations but he was unconscious for only thirty minutes. Though of short duration, this seemed more severe than the other attack and nausea lasted half a day. He states that he does not cry out during the attack, does not vomit, has no headache and is not dizzy.

Nueral Examination.—There is no marked stigmata of degeneration. There is some enlargement of the post cervical glands. The pupils are slightly unequal, the left being smaller than the right. The left does not react as well as the right. The tongue protrudes straight and shows scars. There is a tremor of the chin, which the patient says is a family trait. The grip of the right hand is much weaker than that of the left. The biceps and triceps jerks are about equal, if anything a little diminished on the right side. There is no atrophy of the muscles of the hand on the right side. Objects placed in the right hand are not recognized with the eyes closed but he does recognize them when placed in the left hand. There seems to be other definite changes in sensation. All other signs are negative.

Two Wassermann tests and examination of the urine were negative.

He was transferred to the Surgical clinic and after the usual preparation was operated on July 2, 1915. The site selected for operation was as nearly as possible over the hand center. An opening was made through the skull with a Hudson drill and the opening increased to about two inches in diameter by the use of bone forceps. This thoroughly exposed a changed area in the dura, circular in form, about one and one-half inches in diameter. The diseased area of dura was separated from the healthy, close to the diseased margin. A finger was then introduced and while it was found

that the diseased tissue was easily separated from the brain, it was so extensive that it could not be delivered through the opening in the dura. The delivery was accomplished after breaking the tumor in three pieces. A sharp hemorrhage followed, but was soon controlled by packing with two stripes of gauze. This packing probably affected the motor area of the hand as he showed little or no inclination to move the hand after the operation, in fact claimed that he could not move it. When the gauze was removed, twenty-four hours later, there was no hemorrhage. The flap was stitched in place and the cavity in the brain allowed to take care of itself. Motion of the hand has greatly improved and the patient has made an uneventful recovery.

Miss L., aged 17 years, was transferred from the Neurologic clinic on June 30, 1915, with a growth in the right supraorbital region. This growth started eleven years ago after an attack of scarlet fever. At that time the entire right side of the face was swollen. Then it gradually subsided until the present growth only remained. There is no very definite history that this has increased in size. Since that time she has had headaches, which have been more severe during the last three years. During the last year there have been times when she has complained of dizziness and a sharp pain in the frontal region. These symptoms do not appear to have any particular relation to exertion, neither do they occur at any particular time of day. Headache is constantly present and dull in character.

Examination shows a bulging over the right eye of a bony growth elevated about the size of half an orange above the other side.

X-ray examination shows a suspicion of osteosarcoma.

The patient was operated upon July 6, 1915 under ether anesthesia. An incision was made down over the tumor mass to the eyebrow and a curved incision was made along the line of the eyebrow. The flaps were elevated and the bone exposed. The bone was attacked by means of chisel, mallet and the elevated area removed. The entire thickness of the skull at this point was removed down to the dura. The dura was somewhat thickened, but was not opened. The character of the bone was that of an increased growth without appearance of sarcoma. Through the center of the growth was found some branching fibrous tissue, which looked like an obliterated blood vessel. The skull was probably an inch thick at the most prominent part and showed no particular change in the

tables, but rather an increase of bony tissue between them.

The patient's family history is negative. Wassermann examination is also negative.

The pathologist's report is as follows: The material shows no neoplasm, but a very marked osteomyelitis and obliteration of narrow spaces of fibrous connective tissue. If there is any neoplasm, it is not in this material.

Some objection may be raised to approaching this tumor from the center rather than from the border. Had the tumor been attacked in the latter direction, a large portion of the bone might have been removed before the character of the growth had been determined. By the method employed a large part of the growth was removed and only a small spot of dura was left uncovered by bone and exposed to outside injuries. The frontal sinus was not opened. It is possible that the infection may have spread to the bone from this locality and afterwards became cured.

A CASE OF SPINDLE-CELL SARCOMA OF THE ACCESSORY SINUSES.

R. BISHOP CANFIELD, M.D.

(From the Clinic of Otolaryngology, University Hospital, Ann Arbor, Michigan).

I wish to present the following case of malignant tumor of the accessory sinuses. The patient entered the clinic of Otolaryngology April 29, 1915 complaining of difficulty in breathing through the left nostril, of frequent nosebleeds and of some slight discomfort of the head. The difficulty in breathing began nine months previous to entrance. He consulted several specialists and has had several intranasal operations. These operations gave but temporary if any relief and were accompanied and followed by profuse hemorrhage. After the last operation which took place five weeks ago the nose rapidly became occluded and a mass appeared in the neighborhood of the left inner canthus. This mass increased in size and caused considerable displacement of the left eye outwards and downwards. There has been no pain but copious discharge from both nostrils.

Examination.—The patient is a well built and well nourished man of large frame showing no evidence of wasting disease. The physical examination is negative. The right eye is somewhat prominent. The left eye shows marked displacement outwards, forwards and downwards. A rather hard dense mass the size of a hickory nut presents in the inner canthus behind the upper lid. This mass can be felt

to extend backwards into the orbit. The right nose shows a moderate deviation of the septum and considerable mucus. The left nose shows a rough gray mass completely filling the nostril as far as the vestibule. This mass is fairly soft and bleeds easily. It is not attached to the septum but apparently springs from the lateral wall of the nose in the neighborhood of the middle turbinate.

The examination of the nasopharynx shows a large smooth hard mass which fills the choanae completely. Many large blood vessels cross its surface. All accessory sinuses of the left side are dark to transillumination. This is corroborated by the X-ray plate. As the pathologic report made from a specimen examined by Dr. Crane of Kalamazoo supported our clinical diagnosis of sarcoma a specimen was not taken as in this Clinic we prefer not to remove a specimen from such a neoplasm unless we are sure that the patient will submit to operation, feeling that any unnecessary interference with the tumor predisposes it to increase in the rapidity of its growth.

The nature of the growth was discussed with the patient and a radical operation advised with full knowledge of the fact that it might be found necessary to sacrifice the left eye.

May 4, 1915. Operation: Ether anesthesia. The initial incision passed through the left eyebrow and curved in the median line downwards over the left side of the nose, being similar to but longer than the incision for a radical frontal sinus operation. A second incision was then made upwards in the median line from the initial incision to the hair line. Profuse hemorrhage followed the retraction of the soft tissues. Separation of the periorbita from the roof, inner wall and floor of the orbit discovered the deeper parts of the orbit filled with the tumor mass. The roof of the orbit was lacking in part and at this point the dura was much changed. At this point also the tumor was amalgamated with the dura. On account of the character of the growth it was found necessary to sacrifice the entire anterior wall of the frontal sinus, the entire roof of the orbit, the supraorbital margin, the entire inner wall of the orbit together with the inner half of the floor of the orbit and the inner half of the lower orbital margin.

The tumor of the orbit was found to fill both frontal sinuses, the left ethmoid and antrum, the deeper part of the nasopharynx and the right sphenoid. The tumor was then cleanly removed from those cavities and stripped off the dura over the roof of the frontal sinus to

which it was firmly attached. Although the dura was found much changed at this point it became possible to uncover healthy dura on all sides of this spot. The mass was then dissected out of the upper lid and the enormous cavity packed with vaseline gauze. A small piece of gauze was inserted in the upper end of the vertical incision while the remainder of the incision was sutured. The hemorrhage throughout the operation was very free although not so profuse as might have been expected. This may have been due in part to the fact that one-half grain of emetine was given half an hour before operation. The patient made a good recovery from the operation and has passed through an uneventful convalescence.

THE AGE-RELATIONSHIP BETWEEN TYPES OF MALIGNANT DISEASES.

CARL VERNON WELLER, A.B., M.D.

Instructor in Pathology, University of Michigan.
(From the Pathological Laboratory of the University of Michigan, Ann Arbor, Michigan.)

Now that the theory of a definite family tendency toward malignant disease has received both clinical and experimental verification to a surprising degree, the attack upon the cancer problem has been directed more than ever before along purely biologic lines. The recognition of the fact that some purely intrinsic factor is concerned, to an extent as yet unmeasured, in the origin of malignant disease has given to the study of the natural history of the neoplastic cell a new and well merited interest. This report deals with one phase of that subject, the relationship between the ages at which the two great types of malignant disease, carcinoma and sarcoma, make their appearance.

On purely *a priori* grounds one would be led to expect that the age distribution of carcinoma and of sarcoma would be found to be much the same, for the two conditions are essentially similar. Each is characterized by the power of unlimited and uncontrolled cell multiplication, while the greatest apparent difference between them depends merely upon definition of terms in that carcinomas are derived from epithelial structures and sarcomas from the supporting tissues of the body.

Notwithstanding the apparent analogy between the two types, the belief has been rather widely held that in respect to age distribution there is a marked difference between carcinoma and sarcoma. Carcinoma has long been considered a disease of late middle life and senility and sarcoma a condition affecting particularly the young but occurring to some extent at any

age. This view has found expression in textbooks and throughout medical literature. For instance, De Costa (1) says that sarcomas may arise at any period from birth to extreme senility, but that they are commonest during youth and early middle age. On the other hand, Williams, several years ago (2), and again more recently (3), has emphasized the fact that sarcoma does not widely differ from carcinoma in its age distribution and that the two types of malignancy exhibit close biologic analogies. His conclusions are so nearly substantiated by the work which I shall present that they are here quoted in full:

"The sarcomata may arise at any period of life; a certain number of cases are congenital; more are met with in early infancy, especially during the first five years, than at any other period prior to the twentieth year; after which sarcomata increase in frequency until middle life, becoming rarer again in old age.

"It will be gathered from what I have stated that there are close analogies between the two diseases—sarcoma and carcinoma—such differences as are noticeable being due to diversity of origin and its consequences, rather than to any essential difference in the nature of the morbid process."

Upon the material which was received at the Pathological Laboratory of the University of Michigan during the years 1895 to 1913 a diagnosis of carcinoma was made in 1106 cases of known age. As a basis for a statistical study this material possesses certain advantages over either mortality returns or the results of a cancer census in that every case has received microscopic verification and that the age of the patient is obtained at a much earlier stage of the disease than in mortality records. Thus the true age incidence is more accurately represented. In a previous paper, (4) the age data from these 1106 cases have been graphically analyzed and compared with the age distribution of the total population of Michigan. After proper correction for the variations in the total population for different age periods the true curve of carcinoma incidence was determined. It was found that up to age 37, the incidence of carcinoma increases gradually until, at that age, it reaches the point at which the incidence is the same as it would be were carcinoma uniformly distributed throughout the entire population. From this point the rise is rapid until the apex of the curve is reached at age period 58 to 62. The incidence of the disease is then 4.5 times as great as it would be were carcinoma uni-

formly distributed at all ages, but from this point on the curve falls very definitely, indicating an actual reduction in carcinoma incidence in the later years of life.

Similarly, there were diagnosed in the Pathological Laboratory of the University of Michigan, between the years 1895 and 1913, 265 cases of sarcoma of known age. These have been graphically analyzed by the same method as that used in studying the age data of the carcinoma series (5). The fully corrected curve of sarcoma incidence shows a relatively low level until the period of puberty is reached. At this time there is a rather sharp increase, but the ratio of percentage of sarcoma to percentage of population does not become unity until age 35. That is to say, previous to age 35 the incidence of sarcoma is less than it would be were sarcoma uniformly distributed throughout the entire population. Conversely, after the age 35 there must be found an extensive period in which the incidence of the disease is considerably above the mean. Such is the case, for the ratios of sarcoma incidence remain above unity until the eighth decade and are at their highest level in age period 48 to 52 at which point sarcoma is three times as prevalent in our series as it would be were the disease met with equal frequency at all ages.

Sarcoma cannot, therefore, be considered a disease of the young. While it may, and does, occur at all ages, sarcoma, like carcinoma, has its greatest incidence in middle life. This parallelism is shown to a remarkable degree when the corrected curves of carcinoma and sarcoma incidence are superimposed and compared period by period. It is then found that the two curves not only have the same general contour throughout but, in fact, almost exactly coincide for a period of over twenty years, from age period 28 to 32 to age period 48 to 52. The points upon the two curves corresponding to a ratio equal to unity (the points at which the incidence of the two types is the same as it would be were they each equally prevalent at all ages) are but two years apart. Remarkable as this parallelism is, there is reason to believe that it would have been even more complete had the age data in regard to sarcoma been derived from a larger group of cases.

In conclusion, analysis of the age distribution of this relatively large series of microscopically verified carcinomas and sarcomas shows a marked analogy between the two types of malignancy. As judged from this aspect, it appears that the malignant process must be essentially the same no matter in what type

of tissue it may develop and that the causal or predisposing agencies in the two types of malignancy must either be the same or, at least, have much in common. Attention is called to the fact that malignant neoplasms of purely teratomatous origin, whether carcinomatous, sarcomatous, or mixed in cell type, will not conform in an equal degree to the rule of age incidence for malignancy as given above; for the usual measures of age become meaningless when applied to teratoid structures.

REFERENCES.

- (1) De Costa: Modern Surgery, 1910, p. 365.
- (2) Williams: Twentieth Century Practice of Medicine, 1898, XVII, p. 487.
- (3) Williams: The Natural History of Cancer, 1908, p. 323.
- (4) Weller: Age Incidence in Carcinoma. Archives of Inter. Med., XII, pp. 539-545.
- (5) Weller: Age Incidence in Sarcoma. Archives of Inter. Med., XV, pp. 518-523.

P E R F E C T I O N

THE Dream of Yesterday has already become the Plan of Today, and tomorrow will see it in the discard.

The man who immortalized time and tide had the right idea, and modern life is in the same class when it comes to unceasing progress.

You've got to step lively, and keep on stepping, if you don't want to get lost in the crush around the pie counter where the delicacies of life—fame, fortune, happiness, success—and all the tempting array, await those who can get to them.

The man who wants to keep up with the procession doesn't dare to stop. Before he is aware of it, the thing he mastered yesterday in preparation for today, becomes out-of-date tomorrow.

He must constantly be revising, renewing, improving. "Old things have passed away; all things have become new," was never more true than right now.

The successful man is the man who keeps at the head of the line. By study, by observation, by meeting worth-while people, by good reading, by improving his opportunities as he meets—get that—as he meets them, he is not only conversant with the ideals of today and the trend of tomorrow, but he has his plans laid to conform to the possibilities of next week.

Perfection is not for man. Perfection is merely the goal. The achievement of perfection would mean the end of all endeavor, the uselessness of further effort. There would remain nothing to strive for, no more progress to be made.

But the man who cannot improve himself does not exist. So soon as he becomes satisfied with himself, with his puny achievements, just so quickly will the man drop from sight. He becomes a "dead one."

Step Lively. It's going to be the biggest season yet! A twelve-month filled with tremendous possibilities.—*Ford Times*.

TRANSACTIONS

of the

MICHIGAN STATE MEDICAL SOCIETY

FIFTIETH ANNUAL MEETING

August 31-September 1 and 2, 1915
Grand Rapids, Michigan

MINUTES OF THE COUNCIL.

FIRST SESSION.

The annual meeting of the Council of the Michigan State Medical Society was called to order at the Pantlind Hotel, Grand Rapids, on the evening of August 31, at 8:00 p. m., Dr. W. T. Dodge, Chairman, presiding, and the following Councilors present:

Drs. W. T. Dodge, W. J. DuBois, D. S. Buckland, A. P. Biddle, F. C. Witter, A. H. Rockwell, A. M. Hume, B. H. McMullen, S. K. Church, A. E. Bulson, A. L. Seeley, President Peterson, and Secretary Warnshuis.

The minutes of the previous meeting were read by the Secretary and approved.

Report of the Committee on County Societies made by Dr. Bulson, of Jackson, Chairman, as follows:

"I have a communication from the Secretary of the American Medical Association, which I will read. This is an answer to a communication that the Chairman of the Council and myself sent to the Secretary to forward to the Secretary of the American Medical Association in regard to associate membership in the American Medical Association:"

Chicago, Aug. 16, 1915.

Dr. F. C. Warnshuis, Secretary Michigan State Medical Society, Grand Rapids, Mich.

My dear Dr. Warnshuis:

Some time since, you forwarded me correspondence from Drs. W. T. Dodge and A. E. Bulson, relative to the application of Dr. Lawrence T. Clark, of Detroit, for Associate Fellowship in the American Medical Association. This correspondence does not make a definite reply to the questions which must be answered before Dr. Clark's application can be acted on in accordance with the directions given by the House of Delegates at its meeting held in San Francisco.

Dr. Clark must meet two conditions: First, he may not be eligible to membership in the Michigan State Medical Society if he is to be accorded Associate Fellowship in the American Medical Association. In other words, if he is a practicing physician, and so licensed by the state, he is ineligible to Associate Fellowship. If, however, he is not engaged in practice and his degree of M.D. simply indicates that he has taken a prescribed course and passed the examinations in accordance with which the degree is given, the degree is to all intents and purposes the equivalent to a Ph.D., or a similar degree. There are a number of men, many of them engaged in teaching or in the study of some science allied to medicine, who are not physicians, are not practicing—many of these are not licensed—in fact, are not "Doctors" in the sense that they are engaged in the practice of medicine and are denied membership in the county and state association, and yet in any of these bodies they are welcome guests on the scientific program. It is from this class of men that

Associate Fellows in the American Medical Association are selected. Dr. C. E. Simpson advises us that the by-laws of the Wayne County Medical Society define associate membership in that society as follows:

"Physicians not eligible for membership in the State Society and individuals not members of the profession but working in sciences allied to medicine, or interested in a topic germane to the work of the Society, shall be eligible to Associate Fellowship."

The second qualification imposed by the House of Delegates upon those who applied for Associate Fellowship was that "no objection to the applicant is filed by the officers" of the association of the state in which he resides. Of course, the officers of the state association may simply lodge a blanket objection to all applicants for Associate Fellowship but it is probable that the House of Delegates intended that this should mean to provide for the officers of a state association registering objection to a particular applicant for Associate Fellowship whose standing in the profession or in the community does not warrant the according of Associate Fellowship in the American Medical Association.

The fact that Dr. Clark is an associate member of the Wayne County Medical Society would seem to indicate that he is not eligible to membership in the Michigan State Medical Society. The letters from Drs. Dodge and Bulson may or may not be intended to register objection to the election of Dr. Clark as an Associate Fellow. That is, there is no specific objection stated but they may be intervened as objecting to Dr. Clark but registering this objection in general terms.

Dr. Clark seems to be anxious to qualify as an Associate Fellow and he writes asking for advice as to the action which has been taken on his application. We have answered him stating that a definite reply must await further advice from the Michigan State Medical Society. Possibly, it would be well for me to hold this application pending until after the next meeting of the Council of your state organization. It, of course, must await a more definite reply to the two questions indicated in this letter.

Thanking you for your interest and assistance in helping to determine whether or not Dr. Clark should be accorded the Associate Fellowship which he requests, I am

Very truly yours,

ALEX R. CRAIG, Secretary.

The question with us is, are there any provisions in our by-laws or can we make any, to accept such members?

I will make a motion that as the Council of the Michigan State Medical Society we disapprove of the application for associate membership.

Seconded by Dr. McMullen, of Cadillac. Approved.

Report of Committee on Publication, made by Dr. Hume, of Owosso, as follows:

"Mr. Chairman, with your permission and the permission of the Council, I will make a short verbal report and ask that further consideration of the report be deferred until tomorrow. It is only proper that I should explain why. A certain matter has come up that it seems to me should be considered by the Publication Committee before we are in any position to make a report upon it, and unless there is some objection I would

like to have the privilege of making a further report upon that tomorrow. I will say, in a general way, that the work of the Publication Committee during the year has been very little. Our very efficient Secretary and Editor has done practically all of the work. There has been the reference of a few matters to the Publication Committee. The action by the Committee was practically only advisory and at the request of the Editor. I might state here that perhaps the most important question, or the only new one that would require action or endorsement by the Council would be a method of relieving the Secretary-Editor from a rather unpleasant situation that he occasionally finds himself in, and that is this: Certain papers are submitted for publication that in his good judgment would not be of sufficient value to publish in *The Journal* and yet the sometimes ambitious author feels considerably incensed, perhaps, if the paper is turned down by the Editor; and, personally, I believe that some provision should be made whereby in some cases, at least, the Publication Committee should assume the responsibility, or, at least, a reasonable amount of the responsibility for the rejection of those papers. It probably, I presume would be considered by the Council as within the jurisdiction of the Publication Committee to do this, but I do not think the matter has ever been brought up before the Council.

"I recommend, as Chairman of the Publication Committee, that any papers submitted to the Editor for publication that he may see fit to refer to the Publication Committee be acted upon and the publication authorized or rejected by the Publication Committee."

Seconded by Dr. Bulson, of Jackson, and approved.

Dr. Peterson: Seeing the excellent work that the Committee on Tuberculosis has done, it occurred to me that it was time that we had another committee added to the list, viz., a committee on cancer. Perhaps you noticed in the last Health Bulletin that more people died in Michigan last month of cancer than of tuberculosis, and it seemed to me that a committee on cancer should be formed in order to carry on this propaganda. I have drawn up this resolution and submit it to the Council for consideration:

WHEREAS—The prevention and cure of cancer is one of the greatest present day problems which must be solved largely through the agency of the medical profession, therefore,

BE IT RESOLVED—That a committee, to be known as the Committee on the Prevention and Cure of Cancer, be established by the Michigan State Medical Society, said Committee to be composed of seven members to be appointed by the President of the Society. It shall be the duty of this Committee to co-operate with County Societies and with the American Society for the Control of Cancer and to make a report at the next annual meeting of the Society."

Dr. Biddle, of Detroit, moved the adoption of the resolution as part of the report of the Council to the House of Delegates.

Seconded by Dr. Seeley of Mayville, and approved.

The following recommendations to the House of Delegates were submitted by the Chairman:

This report will be found in the minutes of the House of Delegates.

The Chairman suggested that the recommendations be acted upon *seriatim*.

Dr. DuBois, of Grand Rapids, moved the adoption of the report as a whole. Seconded by Dr. Church, of Marshall, and approved.

The Secretary stated that the Entertainment Committee had arranged the program and had not expended any funds. He suggested that inasmuch as Drs. Theodore McGraw and G. E. Ranney, two of the original charter members had been invited to

address the Society, some token of appreciation should be given to them.

Dr. Hume, of Owosso, moved that the Secretary be authorized to procure flowers for presentation to Drs. Ranney and McGraw, at the General Session on the following day.

Seconded by Dr. DuBois, of Grand Rapids. Approved.

There being no further business, the Council adjourned at 9:00 p. m.

SECOND SESSION.

The second meeting of the Council was held in the Peninsular Club at noon Sept. 1, 1915, Grand Rapids, Mich. Chairman, W. T. Dodge, presiding and the following Councilors present:

McMullen, Seeley, Bulson, Kay, DuBois, Biddle, Buckland, Dodge, Witter, Church, Hume, Rockwell, President Peterson, Secretary Warnshuis and Dr. A. L. Craig Secretary, A.M.A.

Dr. Hume, Chairman of the Publication Committee stated that matters regarding the mechanical work of printing *The Journal* had been referred to his committee and they recommended that the contract submitted by the Tradesman Company be entered into by the Secretary in the name of the Council.

Dr. Biddle supported by Dr. Burr moved that the recommendation of the committee be adopted and the Secretary instructed to execute the contract with the Tradesman Company for the ensuing year for the publication of *The Journal*.

There being no further business the Council adjourned.

THIRD SESSION.

The third session of the Council was called to order at the Fountain Street Baptist Church, Grand Rapids, at 12:30 p. m., on September 2, 1915, by Chairman W. T. Dodge, the following Councilors being present:

W. T. Dodge, A. E. Bulson, A. L. Seeley, A. M. Hume, A. H. Rockwell, F. C. Witter, newly elected Councilor Guy L. Kiefer.

No new business having been presented, the Chairman announced the election of officers as the first order of business.

Dr. A. L. Seeley moved that Dr. Dodge be re-elected as Chairman of the Council for the ensuing year.

Seconded by Dr. A. H. Rockwell, and approved.

Dr. A. M. Hume moved the election of Dr. A. L. Seeley as Vice-Chairman of the Council.

Seconded by Dr. A. E. Bulson. Approved.

Chairman W. T. Dodge appointed Dr. G. L. Kiefer as member of the Publication Committee in place of Dr. A. P. Biddle.

Dr. A. F. Bulson moved that the January meeting of the Council be held in Detroit.

Seconded by Dr. A. L. Seeley and approved.

Dr. A. M. Hume spoke as follows: Mr. President, I think we all appreciate the very valuable service that Dr. A. P. Biddle has rendered to the Society and personally to the members of the Council during

his long years of service, and I would move that the Secretary be authorized to embody in a set of resolutions, the sentiment of this Council in regard thereto.

Seconded by Dr. A. H. Rockwell. Approved.

RESOLUTION.

WHEREAS—Dr. Andrew P. Biddle having completed one term as Councillor of the Michigan State Medical Society for the First District and voluntarily declined re-election, and,

WHEREAS—Dr. Andrew P. Biddle has during the past fifteen years been closely connected with the history of our organization, serving at one time or another as Secretary, Editor and Councillor, and,

WHEREAS—Dr. Andrew P. Biddle has during these years of official service rendered unto the Society many hours of his time, contributed valuable suggestions, exercised commendable judgment and has at all times held himself ready to advance the organization's every interest—oft at a personal sacrifice,

THEREFORE BE IT RESOLVED—That the Council of the Michigan State Medical Society hereby publicly acknowledge these many causes for the organization's indebtedness to Dr. Andrew P. Biddle and hereby place on record our deep sense of appreciation for the time and labor he has thus contributed. That loth as we are to see him lay aside official activity we are aware that he is entitled to be relieved from the work he has so long and conscientiously performed. That we extend unto him the organization's hearty thanks and tender him our every good wish.

On motion, the Council adjourned.

W. T. DODGE, Chairman.

F. C. WARNSHUIS, Secretary.

MINUTES OF THE HOUSE OF DELEGATES

The Fiftieth Annual Meeting of the House of Delegates of the Michigan State Medical Society was called to order at the Fountain Street Baptist Church, Grand Rapids, at 8:15 on the morning of September 1, 1915, with President Peterson presiding, and the following delegates responding to roll call:

Frank, Witt, Eggleston, Tonkin, Ennis, Stealey, Stewart, Bird, Denny, Turner, Young, Rulison, Bernstein, Van Ess, Brook, Baker, Wenger, Snow, Spaulding, Ramsdell, Moll, Spencer, Campbell, Lester, Chapman, Holm, Mersen, McKinney, Rowley, MacKenzie, Oden, Clark, Carstens, Tibbals, Hirschman, Vaughan, Lawrence, Campbell, Frothingham, Hewitt, Simpson, Cleland, Wilson.—43.

Dr. L. S. Ramsdell, Manistee, Chairman Committee on Credentials moved that the Delegates responding to roll call be seated.

Seconded and approved.

Moved by the Secretary that the minutes of the last session as published in the *Journal* be considered read.

Seconded by Dr. Lester, and approved.

Report of the Council to the House of Delegates read by the Chairman of the Council, Dr. Dodge, of Big Rapids, as follows:

ANNUAL REPORT OF THE COUNCIL

On the Fiftieth Anniversary of the founding of this Society the Council deems it appropriate, in its thirteenth annual report, to call attention to the splendid position attained by organized scientific medicine in this state.

Previous to the adoption of the present form of organization but a small percentage of the medical men of the state belonged to this society, and each year practically as many were dropped from mem-

bership as were added thereto at the annual meetings. Few county or local societies existed and those few were of small size and exercised but little influence upon the profession or people of their localities. This has all been changed. More than 60 per cent. of the eligible men in the state are now enrolled in our membership. Our relations with one another have been improved by this closer affiliation and consequent better understanding, and our prestige with the public has been greatly enhanced. The progressive movement that has been rewarded so richly should encourage us to still greater efforts and further advancement. To this end the Council believes that there should be some changes in certain of our committees and that a large new committee should be provided for to take care of the work now performed by several committees, and that to it should be referred other matters that will very soon assume great importance to us. To this end we recommend the adoption of the following resolutions and sub-joined proposed amendment to our by-laws:

RESOLUTION

WHEREAS—The tendencies of the present day are prophetic of the dawning of an era wherein our commercial and social organizations will undoubtedly endeavor to promulgate a plan that will seek to bring about the establishment of commercial, industrial and social insurance for the purpose of providing sanitary, medical and surgical care to the inhabitants of this as well as other states of the United States of America, and

WHEREAS—The establishment of such universal insurance plans and bureaus is assuredly bound to exert a vastly important influence upon the standing, work and life of our entire medical profession, and

WHEREAS—It behooves us, as members of the medical profession, to be intimately and intelligently acquainted with all and every such proposed agitation and movement in order that we may act in unison and with clear foresight upon the submission of the propositions arising as the result of the efforts of reformists and commercial as well as political bodies, Therefore, be it

RESOLVED—That the following amendments be submitted in due form for adoption by the House of Delegates at this its 1915 Annual Meeting:

AMENDMENT TO BY-LAWS

To Chapter IX Sec. 1 of the By-Laws there be added to the permanent committees the clause, "Committee on Industrial and Civic Relationship."

To Chapter IX of the By-Laws there be added this new section:

"Section XV. The Committee on Industrial and Civic Relationship shall consist of ten members appointed annually by the newly elected president.

"The duties of this Committee shall be:

"To study, gather facts and become intimately acquainted with all and every movement wherever and by whosoever agitated, proposed or attempted to enact or be enacted that has as its secret or avowed object the providing of social, commercial or industrial medical insurance for the public, civic or commercial employes or persons; or for the providing

of medical or surgical care to a group or groups of individuals singly or collectively.

"To devise and advise, whenever necessary, intelligent action on the part of this Society upon these questions.

"To represent this Society at any and all conferences such civic or commercial propagandists may hold and by which dignified recognition is extended to the medical profession..

"To report annually and in writing, its findings, recommendations and information to the House of Delegates. Should occasion arise in the interval between the stated meetings of the House of Delegates and prompt action become imperative, the Committee is to present its findings to the Chairman of the Council and President who are empowered how to proceed in such emergencies by this Constitution and By-Laws."

In event of the adoption of this amendment it is recommended that proper enactment be made to secure the discharge of the following committees now existing: Eye and Ear Examination and Specialties, as the duties of these two committees may well be assigned to the new committee on Industrial and Civic Relationship.

MEDICAL AND HEALTH LEGISLATION

Two years ago the Council report referred to the amendments to the Medical Practice Act passed by the Legislature and stated that in its opinion the act would prove to be all that we could desire. Since that time the act has been sustained by the Supreme Court and in its operation has not suggested the advisability of any efforts to secure further changes. During the last legislative session efforts of the medical profession were confined to attempts to secure legislation for the benefit of the Public Health and to prevent impairment of our Practice Act by the passage of a bill providing for separate registration of Chiropractors. Our Medical Act provides for the registration of drugless healers who shall be able to pass examinations upon primary subjects before the Board of Registration. Those who could not register under the exemption clause in Section 3 attempted to secure the passage of an act for the creation of a Chiropractic Board. The House passed the bill, but through the efforts of our Legislative Committee it was killed in the Senate.

The State Board of Health prepared a bill providing for the appointment of thirty district Health Officers to serve the state outside of Detroit and Grand Rapids. This bill was approved by the Legislative Committee of this Society and the Board of Registration. Neither the framers of the bill nor its endorsers believed it to be an ideal one, or one at all adequate to meet the requirements of Public Health supervision throughout the state. To do that would require the service of more than thirty officers, but it was hoped that so moderate a measure might gain the support of our Legislature. In that we were disappointed. The bill never had a chance. It never will have so long as its advocates are confined principally to the ranks of the medical profession. A lobby was at once organized in opposition to this purely health measure. Although the bill added no penalties to our health laws as

now existing, it was charged that it was designed to abridge the liberties of the people. This lobby was financed by the League of Medical Liberty, and its funds came from the tarnished patent medicine manufacturers, who organized a Medical Liberty League several years ago. The usual crowd of Christian Scientists appeared in full affiliation with the dope representatives.

At the hearing before the House Committee it soon became apparent that arguments of the medical profession had no influence. They looked upon us all as job seekers endeavoring to have created more jobs for doctors. Why not meet this situation by changing our line of attack? We do not want jobs—we wish to assist the public in stamping out preventable diseases.

It is pretty generally recognized that a medical man with no special training along sanitary lines would not be likely to make a competent sanitary officer and the suggestion was made, when the bill was being prepared in committee, that men holding the degree of Sanitary Engineer be made eligible for the position. The suggestion was not adopted because of the fear that the medical profession would not itself approve this plan. The ideal Health Officer would undoubtedly be one who held the degree of Sanitary Engineer and Doctor of Medicine, or the degree of Doctor of Public Health. Not enough such men are available.

It is suggested that this Society recommend to the State Board of Health that an attempt be made to secure legislation permitting the appointment of a sufficient number of sanitary inspectors, who shall be graduated sanitary engineers, and that these inspectors be called upon to make a sanitary survey of the state, authorized to hold public meetings in all sections and disseminate in that way a knowledge of sanitary science among the people. Sanitary engineers are competent bacteriologists and chemists and the medical profession will be able to seek their employment in this capacity by the state, without arousing the suspicion of being job-seekers.

It is also recommended that a plan be outlined to the County Societies for conducting educational work in their communities on Public Health matters so that a sentiment may be created among the public for this kind of legislation.

The passage of the Tuberculosis bill was brought about largely by the efforts of the newspapers and unless the general public can be taught the necessity of health legislation it is not likely to come. In the educational work that will doubtless be adopted in carrying out the tuberculosis propaganda during the next two years a fine opportunity exists to arouse public sentiment to the necessity of improved sanitary regulations.

A state-wide tuberculosis campaign may prove beneficial in preventing the occurrence of a few cases of that disease, but spasmodic attempts of this nature are usually disappointing in result.

What the public needs, and what they should be made to understand that they need, is systematic regulation of the sanitary affairs of the state by a sufficient number of trained sanitary scientists so that the occurrence of all kinds of preventable diseases may be greatly lessened.

FEE BILL

The committee appointed for that purpose submits for your consideration a new fee schedule for use under the Workmen's Compensation Law. In considering this schedule you are urged to take into consideration the fact that any fee schedule must be based upon the assumed proper fee to be charged for attendance upon patients whose average income is below \$1,000 per year. That is the basis upon which all fee schedules have been arranged in other states, and it is the only basis upon which our schedule will receive approval at the hands of the Workmen's Compensation Board.

HONORARY MEMBERS

We recommend that Dr. Channing W. Barrett, of Chicago, be elected to non-resident honorary membership in this Society.

MEETINGS OF THE HOUSE OF DELEGATES

It is the opinion of the Council that the present arrangement does not give the House of Delegates sufficient time to give proper consideration to the business affairs of the Society. The first session of the House of Delegates is obliged to close at 10:30 a. m. for the General Session and it is not usually convenient to open the session early enough in the morning to permit of proper consideration of business before the hour for the General Session. It is therefore recommended that hereafter the first session of the House of Delegates be held at 8:30 p. m. of the day preceding the first general session of the Society.

THE JOURNAL

The Council calls attention to the high position attained by our *Journal*. It is necessary if this character of our *Journal* is maintained that careful supervision be made of the articles offered for publication. More articles are submitted than can be accepted for publication. The Council, therefore, recommends that it be made the duty of the Publication Committee to examine and approve all articles not read at our annual meetings before their acceptance for publication.

RESOLUTION

WHEREAS—The prevention and cure of cancer is one of the greatest present-day problems which must be solved largely through the agency of the medical profession, Therefore be it

RESOLVED—That a committee, to be known as the Committee on the Prevention and Cure of Cancer be established by the Michigan State Medical Society; said committee to be composed of seven members to be appointed by the President of the Society. It shall be the duty of this committee to co-operate with the County Societies and with the American Society for the Control of Cancer and to make a report at the next annual meeting of the Society.

FINANCES

Grand Rapids, Mich., Aug. 30, 1915.

To the Council of the Michigan State Medical Society, c/o F. C. Warnshuis, Secretary, 91 Monroe Ave., Grand Rapids, Mich.

Gentlemen:

The following Balance Sheet and statement of

Revenue and Expenses for the eight months ended Aug. 28, 1915 was properly prepared from the General Ledger and in my opinion is correct.

Assets.

Certificates of Deposit	\$5,350.05
Bond A/C	2,000.00
Balance G. R. Savings Bank	151.23
Accounts Receivable	886.94
Total Assets	\$8,388.22

Liabilities.

Due Defense Fund	\$ 38.00
Present Worth	\$8,350.22

Revenue

Membership dues	\$2,254.85
Journal Subscriptions	2,253.50
Advertising Sales	2,618.92
Reprint Sales	599.89
Outside Subscrip. sales	10.50
Interest Received	71.75
Total Revenue	\$7,809.41

Expenses

Journal Expense	\$3,726.81
State Society Expense	864.45
Secretary's Expense ..	37.98
Council Expense	305.79
Reprint Expense	620.04
Bad Acc'ts Charged Off	44.98
Total Expenses	\$5,600.05

Net Gain for 8 Months.....	\$2,209.36
Present Worth, Jan. 1, 1915	6,140.86
Present Worth (see above)	\$8,350.22

WALTER H. SHULTUS, Public Accountant.
W. T. DODGE, Chairman.

Dr. J. A. Wessinger, of Ann Arbor, moved that the report be referred to the Business Committee. Seconded by Dr. F. B. Tibbals, of Wayne.

Dr. W. J. Wilson, Jr., of Detroit, amended that the reading of amendments recommended in the report of the Council be considered as notice to the House of Delegates of amendments to be acted upon at its next session.

Carried.

Dr. V. A. Chapman, Muskegon, made the following motion:

"I move, Mr. President, that in addition to the articles recommended by the Council to be referred to the Publication Committee for action there be included all communications offered for publication in the *Journal* by others than the Editor of the *Journal*."

Seconded by Dr. W. G. Bird, of Flint. Approved.

COMMITTEE REPORTS

REPORT OF THE COMMITTEE ON FEE SCHEDULE.

It was the intention of the committee appointed to formulate a fee schedule, to submit a bill of rates to the County Societies soon after the last session of the State Medical Society. Finding that proposed changes in the Workmen's Compensation Act were to be agitated during the 1915 session of the legislature, the committee decided that its work, which would be dependent upon any such changes, if made, must await the outcome of legislative action. Owing to this delay, and the consequent limited time at the disposal of the Committee, it was thought best to have the proposed schedule printed in *The Journal* for August, and to have the attention of the County Societies called to it. This was done and the delegates asked to get a consensus of opinion from their societies, for or against, that the proposed schedule might be voted upon intelligently at the present meeting of the House of Delegates.

The Committee wishes to repeat the statement made in the August *Journal*, that the fee schedule which it has submitted for consideration, has been worked out from the New York, Ohio and California schedules—the best so far formulated. None of these state schedules are more liberal, and, in a number of items, are not so liberal as the schedule offered.

The Committee also wishes to repeat and emphasize a statement made elsewhere, that whatever scale of fees may be satisfactory to the members of the State Medical Society must also be satisfactory to and meet the approval of the Industrial Accident Board at Lansing before it can be put into effect.

C. B. STOCKWELL.
B. M. DAVEY.
F. C. WARNSHUIS.
Committee.

PUBLIC HEALTH EDUCATION.

Your Committee on Public Health Education desires to make the following brief report:

During the year your Committee has paid attention to Public Health matters and has found that it is possible to further Public Health work through the effort of a committee of this kind.

The matter of greatest importance that has come up was the submission to the legislature of the District Health Officer's Bill. We are sorry to report that this bill failed to pass either house and, in fact, it did not get much consideration even from the committees. This lack of attention to the bill was due to the fact that there was no concerted effort on the part of the profession of the state in its behalf. Individual members of the society took active interest in the passage of the bill and among them may be mentioned Dr. V. C. Vaughan and Dr. J. L. Burkhart. Individual members of your Committee did all they could to aid the bill, but individual effort in matters of this kind has but little effect.

Your Committee respectfully recommends and urges that every member of this society get busy now and work for the passage of the District Health

Officer's Bill or some similar measure at the next session of the legislature. The chairman of your Committee made this same recommendation in his presidential address last year, but it was of no avail. Possibly the session of the legislature followed too closely upon our meeting and there was not sufficient time for all of our many members throughout the state to interest themselves and their neighbors as well as their representatives in the legislature in this important matter. Now there is ample time. Our recommendation is that you begin at once and keep going until the District Health Officer's Bill becomes a law.

There have been a number of Public Health Weeks throughout the state. Various cities have been glad to accept the aid of the State Board of Health in giving to the citizens Public Health Education for a whole week. The members of your Committee have been glad to co-operate with the State Board of Health and several of them have been on the list of speakers on more than one occasion in the cities where these successful Public Health Weeks were held.

Your Committee desires to heartily endorse the action of the Tuberculosis Committee in establishing the Tuberculosis Day. We believe that this is one of the best steps that has been taken in the interest of Public Health Education. All sanitarians know that the best way in which to control contagious diseases is to know the whereabouts of the cases. The Tuberculosis Day survey should result in the discovery of many hundreds of cases of tuberculosis throughout this city the existence of which has been hitherto unknown.

Respectfully submitted,

GUY L. KIEFER.
JOHN L. BURKHART.
CLARA M. DAVIS.
EDWARD GOODWIN.
ALMON T. GODFREY.

COMMITTEE TO STUDY THE RELATIONS AND QUALIFICATIONS OF SPECIALISTS.

Your Committee to Study the Relations and Qualifications of Specialists makes a report as follows: Commendable progress has been made during the last year. We quote the following in part from the joint report of Committees of the American Ophthalmological Society, the Section of Ophthalmology of the American Medical Association, and the Academy of Ophthalmology and Oto-Laryngology, Regarding the Establishment of a Joint Board to Arrange, Control, and Supervise Examinations to test Preparation for Ophthalmic Practice.

"It seems clear that there is unanimous agreement as to the need for systematized and standardized training of those who are to practice ophthalmology. At least five of the medical departments of important American Universities have now arranged for such courses leading up to special degrees."

The committee makes the following recommendations:

"That by the conjoint action of the American Ophthalmological Society, the Section on Ophthalmology of the American Medical Association, and the American Academy of Ophthalmology and Oto-Laryngology, a Board be established to arrange, control, and supervise examinations, to test the preparation of those who design to enter upon the special or exclusive practice of ophthalmology."

"The Board shall appoint from its own membership, and

from the medical profession outside its membership, a sufficient number of learned and skilled examiners who shall conduct the said examinations and report thereon to the Board.

"The examinations may be held in any city of the United States where good facilities may be obtained for conducting clinical and practical examinations."

"The Board shall fix requirements to be met by all candidates for examination, which shall include the successful completion of a course in medicine in a medical school of recognized good standing, at least two years before the examination."

"Each candidate whom the examiners report as having successfully passed the required examination shall receive by the authority of the Board a certificate or diploma, setting forth this act, but conferring on the recipient no academic degree."

"The American Ophthalmological Society and the American Academy of Ophthalmology and Oto-Laryngology shall from the year 1920 require every candidate for membership in those bodies to possess the certificate above mentioned, unless the applicant shall possess a degree in ophthalmology conferred by a university recognized by them as competent to prepare its students for such a degree. The Section on Ophthalmology of the American Medical Association, in so far as it is empowered to adopt its own rules shall from the year 1920, require that its officers and those members accorded places on its program shall possess the certificate in question or its equivalent; and shall request that in the directory published by the Association, the holders of such certificates be especially recognized."

Other branches of medicine can be considered in the same manner.

A great advance in the Education of Specialists has lately been made by the University of Minnesota, where a Graduate School is now in operation. The affiliation with the Mayo Clinic is another step forward. It is recommended that medical schools follow the lead set by the University of Minnesota. It is further recommended that all bodies interested in medical education, e. g. the Federation of Medical Examining Boards, the Committee on Education of the American Medical Association, begin to work toward a realization of a proper training of specialists, after it has been demonstrated that a regulation is possible.

The Committee of the Michigan State Medical Society furthermore recommends the following:

1. A special training of specialists is imperative.
2. Such special training must be acquired practically.
3. This practical training must be obtained in a proper hospital department.
4. Proper hospital departments for the education of specialists must be created in sufficient numbers.
5. The state must guarantee, in some form or other, the announcement of a specialist.

(Signed)) The Committee:

EMIL AMBERG, Chairman.
F. W. ROBBINS.
WM. G. BIRD.

COMMITTEE ON LEGISLATION AND PUBLIC POLICY.

Your Committee on Legislation and Public Policy would respectfully report as follows:

Preliminary to the effort to secure through the Legislature of 1912-13 certain important amendments to our Medical Practice Act, there was effected a combination of forces which theretofore had acted independently and often in conflict with each other. The Michigan State Medical Society, our State Board of Health and our State Board of Registration

in Medicine, are bodies practically created by the medical profession of Michigan, and are all engaged in the organized work of, and for, the profession and the people. Two years ago these bodies joined forces; and there was secured thereby one of the best, if not actually the best medical practice act in the United States. This confederation has been maintained during the past year, and whatever success your Committee may have attained is the result of "team work," and when we have gone down to defeat we have "fought, bled and died" together.

A year ago this Society endorsed the District Health Officer measure recently advocated by the State Board of Health, and instructed its Legislative Committee to use every reasonable activity therefor. We met with the State Board of Health in the preliminary work and took an active part in the hearing before the House Committee on Public Health. Though the measure failed to become law, we have no consciousness of defeat but, on the contrary, an assurance of ultimate success if none weary or become faint hearted. We can progress in the promotion of public health only by educating the public along health lines. This is being done, and about the next concerted effort for district health supervision will succeed.

This Society also instructed its Legislative Committee to endeavor to secure an amendment to the Employers Liability act, to provide for more than three weeks' surgical attendance to be paid for by the employer. Many changes of this law were in prospect, numerous amendments were introduced and the administration of the law was attacked. It seemed the better part of valor—discretion—to "stay out;" and your Committee has only to report that it was successful in that effort.

The validity of our Medical Practice Act as amended by the Legislature of 1912-13 was attacked in the courts. (Healey case) and during the early part of the last session the case was still in the Supreme Court. This placed your Committee in somewhat of an attitude of "watchful waiting." If the important feature of the law should be declared invalid, then we must endeavor to have it amended; if declared sound, then we must be prepared for attempted legislation to render the law practically inoperative.

With the argument, and on the pretext, that the law regulating the drugless healers would be declared invalid and that the aforesaid D. H.'s (drugless healers) would be left "as sheep without a shepherd," there was introduced on January 19, 1915, House Bill No 19, "To provide for the examination, regulation, licensing and registration of chiropractors; for the appointment of a state board of registration in chiropractic; for the punishment of offenders against this act, and to repeal all acts and parts of acts in conflict herewith;"—the latter practically repealing that part of our medical practice act then under consideration by the Supreme Court.

Your Committee had no hearing upon the merits of this bill before the Public Health Committee of the House, and it was reported out and passed as a seemingly inconsequential part of the daily routine. Was somebody asleep at the switch? Perhaps! and perhaps the watch-dog was busy looking for fleas.

About this time the Supreme Court handed down a decision affirming the validity of the Medical Practice Act of 1913. On April 8, 1915, the Public Health Committee of the Senate accorded to your Committee as well as to all interested parties, a very courteous, free and full hearing on House Bill No. 50. It is fairly presumable that the hearing was satisfactory to the Public Health Committee at least, for the bill was never reported out.

In closing this report your Committee wishes to emphasize not only the invaluable assistance of the committees and boards mentioned as having acted with us, in endeavoring to do those things good for all the people of Michigan, but especial appreciation and thanks are due the Senate Public Health Committee for its fair and courteous treatment of all concerned, and to the Attorney General's department for its helpful attitude in advising clearly and impartially upon legal points involved.

Dr. Hume: I would also report that during the past year there have appeared before the State Board of Registration for annulment of license certain practitioners. You will remember that the Medical Practice Act that the State Board of Registration can consider for annulment the license of any practitioner who has been convicted in any of the courts of the State not only of the violation of the Medical Practice Act, but of any other of the statutes, and while it is to a certain extent optional with the State Board, yet as a matter of propriety it has been stated to us by the Attorney-General's Department that the State Board of Registration ought to consider every case of that kind if they do consider any, and, therefore, every case of that kind has come before the Board for consideration. There have appeared before the Board during the last year under that part of the Medical Practice Act of registered practitioners who had been convicted of a violation of this Act or some other, two. One case was dismissed, and the other was put on probation. There are of cases now pending that will probably come before the Board during the coming year, seven. I will say that most of those were violations of the Local Option, and the Board has been very careful to inquire into all the local conditions before taking decided action in the case. Of the work in hand by the State Board of Registration, there will be started during September, in Chippewa County, action against the so-called United Doctors, and also action against the Home Remedy and Treatment Company. Action is taken in these cases under that portion of the Medical Practice Act relative to immoral advertising. In Ingham County, complaint was made to the Prosecuting Attorney in August of immoral advertising in the newspaper; this was against a graduate of the Homeopathic.

There being no objections, report was referred to the Business Committee.

ARTHUR M. HUME.
WALTER H. SAWYER.
H. J. BARTHOLOMEW.

Committee on Legislation and Public Policy.

COMMITTEE ON EYE AND EAR EXAMINATION OF SCHOOL CHILDREN.

To the President and Members of the House of Delegates of the Michigan State Medical Society:

Your Committee appointed to Encourage the Examination of Eyes and Ears of School Children throughout the state has the honor to make the following report.

While the school authorities in many of the larger and a few of the smaller cities in the state are requiring an examination of the eyes and ears of the scholars as recommended by the state society, on the whole, the examinations are not being attempted, or if attempted are not thoroughly carried out.

In previous reports your committee advised against any efforts to have a law enacted requiring that such examination be compulsory. This recommendation was made for the reason that we were unable to determine the efficiency of such laws in the states where they exist.

The whole question was taken up with the Chairman of the American Medical Association and he now urges that a law be passed in every state in the union requiring certain tests to be made. At the present time twelve states have enacted laws requiring the school authorities to have the teachers make certain tests to determine whether any eye, ear, nose or throat condition may be present which could interfere with the progress or health of the child. The requirements of the law are not carried out in every instance. Nevertheless the health of the children in the states where such laws exist is better cared for by the school authorities than it is in those states without such laws. We are advised by the general Chairman that the state of Wyoming has a most satisfactory law. It reads as follows:

An Act Entitled "An Act Relating to Physical Examination of School Pupils."

Section 1. It shall be the duty of every teacher engaged in teaching in the public schools of incorporated cities and towns of the state, separately and carefully to test and examine every child under his jurisdiction to ascertain if such child is suffering from defective sight or hearing or diseases of nose or throat, provided that such examination by the teacher shall be made without the use of drugs or instruments.

Section 2. In making the tests required by Section 1 of this act the teacher shall employ eye testing charts of a standard character approved and supplied by the State Superintendent of Public Instruction and shall conform to the rules of the State Superintendent in methods of applying such tests, especial attention being given to defects that may be disclosed by the following questions:

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters in the number 20 line of the standard vision chart with either eye?
3. Do the eyes and head habitually grow weary and painful after study?
4. Does the pupil appear to be "cross-eyed?"
5. Does the pupil complain of ear-ache in either ear?
6. Does matter (pus) or a foul odor proceed from either ear?
7. Does the pupil fail to hear an ordinary voice at twenty feet in a quiet room?
8. Is the pupil frequently subject to "colds in the head" and discharges from the nose and throat?
9. Is the pupil an habitual "mouth breather?"

If an affirmative answer is found to any of these questions the teacher shall give such a pupil a report to his parent or guardian made on a report blank prepared and furnished by the State Superintendent of Public Instruction such report to be made in form prescribed by the State Superintendent.

It shall be the further duty of the teacher to record the results of the examinations required by Section 1 of this Act in such a manner as may be prescribed by the State Superintendent of Public Instruction.

Section 3. It shall be the duty of the State Superintendent of Public Instruction to prescribe rules for making such tests as are required by this Act and to prepare copies thereof, together with all blanks, charts and printed forms deemed necessary by the State Superintendent for carrying into effect the provisions of this Act, and to distribute them to all the public school teachers in incorporated cities and towns of the state, such distribution to be made through the district boards, or, if there be such, through the executive officers thereof, the expenses of such printing and distribution to be borne out by the State Superintendent's contingent; Provided, That, the annual expense for such purpose shall not exceed One Hundred Fifty Dollars.

Section 4. During the first months of each school year,

after the opening of school, teachers must make the tests required of this act upon the children then in attendance at school; and thereafter, as children enter school during the year, such tests must be made immediately upon their entrance.

Section 5. It shall be the duty of the Boards of Trustees of the several school districts of the state to enforce the provisions of this Act.

Section 6. This Act shall take effect and be in force from and after (Date).

Your Committee recommends that the Michigan State Medical Society through its Judiciary Committee, take such steps as may be necessary to present this matter to the proper legislative authorities and urge the adoption of the Wyoming law, as given in this report.

Respectfully submitted,

WALTER R. PARKER, Chairman.
W. G. BIRD.
O. L. RICKER.

COMMITTEE ON VENEREAL PROPHYLAXIS.

Mr. President and the Members of the State Medical Society:

Your Committee on Venereal Prophylaxis met in Ann Arbor on the first day of July, and begs to submit to you the following report:

The question of education of the public regarding sex matters and the proper training of sex in the public schools, and of free and open discussion of sex matters in general by parents, all these subjects have been discussed at such great length that we deem it unnecessary to further emphasize them. The opinion of the advisability of such measures is now generally conceded to be unanimous and undoubtedly there exists to-day among the laity a far better understanding of sex matters, a more intimate knowledge of the social and economic aspects of gonorrhea and syphilis than existed a decade ago.

We do not therefore, urge upon you further legislation and educative measures along these lines, but rather invite your attention to an entirely new subject, one which we believe falls within the domain of our committee's duties; a subject about which too little is generally known, not only among the laity but among members of our own profession.

We beg to bring to your attention the deplorable conditions existent to-day in our state, with regard to the treatment of syphilis. There is no need to do more than remind you of the economic importance, the social importance and the cost to our community of syphilitic infection. Extensive monographs alone might be written on the subject of the "Syphilitic and his relation to the community;" of "The syphilitic and his relation to the family;" of "The syphilitic in relation to marriage and pregnancy;" of "The cost of hereditary syphilis to the state;" of "The relation of syphilis to insanity with its consequent cost to the state."

In the main all these deplorable conditions largely hinge upon the inadequate facilities for the treatment of the syphilitic in the early period of his disease. At the outset it must be said that syphilis should not in general be treated as an ambulatory disease. In the early months of his infection the syphilitic, at least when he is recruited from those of the ignorant classes, to whom the name of the disease itself, and its far-reaching importance is lacking, is an active contagious individual. As such

he is a menace to the public health, and as such he should be treated in institutions, admirably equipped for treatment of this disease. It is not an exaggeration to say that from 40 to 50 per cent. of all cases of syphilis in this state, are cases in which infection might easily have been prevented. Such are infections of innocent wives and accidental infection of innocent members of the family and children born from the marriage of a syphilitic.

These facts are established beyond a peradventure of a doubt; they need no documentary evidence, and we call your attention to them merely as an introduction to the theme of our report.

It is hard to reconcile the modern, broad conception of public health, as it exists in our communities to-day, with the paradoxical fact that in our state—to-day there is but one public hospital to which the syphilitic as such can gain admittance and be treated during the dangerous time of his infection. All our other institutions close their doors to the syphilitic. A syphilitic who happened to contract typhoid fever or pneumonia, would be readily admitted to any hospital, so long as his syphilis remained in ignorance. Many such syphilitics gain entrance into our hospital by reason of failure of diagnosis, and when perchance the diagnosis has been reached, the poor patient is shown the door with the greatest possible expedition.

We beg to submit to you that the Judge of the Probate Court of the city of Detroit is forced to send his syphilitic charges to the University at Ann Arbor, because no hospital in the city of Detroit will accept them, and these conditions exist in other cities as well. We can do no more as your committee than to invite your attention to this deplorable and narrow-minded policy; a condition which we as ministers of the public health must take active measures to remedy immediately.

The larger class of indigent and poor syphilitics, as well as those who are ignorant, should be provided for in a state hospital for syphilis, and for those patients who are more intelligent and are perhaps able to pay for hospitalization, there should be adequate facilities in the general hospitals. The policy of a closed door to this class of patients, who above all others should receive hospital care, should be repudiated by this body as inconsistent with the policy of public health and as inconsistent with modern medical progress.

The need of such institutions for the care of the syphilitic in the early months of his infection and for the treatment of those terrible late sequellae, which are all too common in our community, is fully as great as is the need for the care of our tuberculosis patients, and is of equal and of more far-reaching economic importance than the admirable institutions, which the state has provided for our feeble-minded and insane. It is not too much to say that if adequate facilities were provided for the intelligent treatment of the syphilitic in the early months of his infection, there would be a markedly smaller number of public charges in our state institutions for the insane and feeble-minded than exists under present day conditions.

Your Committee furthermore begs to be placed on record as favoring a law providing for the registration before the county and municipal health officers of all patients in the active stage of syphilis.

The question of establishing a state law controlling marriage, while theoretically correct, is deemed by your Committee as inexpedient under the existing conditions in our state. To be of any value such a law must first apply equally to women as to men. There must be a single serological institute for the carrying out of the proper tests employed to insure uniformity of result and a more adequate fee for such services than the proposed law provides.

Respectfully submitted,

UDO J. WILE, Chairman.

ANDREW P. BIDDLE.

A. E. WEST.

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

Medical education in Michigan during the past year has attained the highest standards of efficiency in its history. Today, three A class colleges with splendid teaching facilities are offering exceptional opportunities to the medical student, while five sub-standard colleges in the last decade have passed into the list of defunct institutions.

There are nine states in which the licensing boards have adopted two years of collegiate work as the minimum standard for preliminary education.

At Ann Arbor, the State University School of non-sectarian medicine has shown a gradual increase in attendance with a registration of over three hundred. The entering class for the coming year will be somewhat above one hundred. About 75 per cent. of the freshmen come from the literary department of the University. The requirements for admission have been gradually raised. After September no one will be admitted with more conditions than he can remove in one summer school. After 1916 no students can receive the combined B.S. and M.D. degree without two and one-half years of preliminary college work.

At Detroit, the enormous clinical material has been systematically concentrated and arranged to allow every opportunity for a clinical clerkship to each senior student followed by one or two years of interne service to all graduates. The laboratories have been brought to a high state of efficiency with every modern equipment and a full corps of enthusiastic high grade full time instructors.

The state of Michigan ranks nine in the number of students—four hundred and fifty-two. Of the eight courses on Public Health offered in this country two may be had in the colleges of Michigan.

The splendid work of the Council of Medical Education of the American Medical Association and the high standard of entrance requirements have resulted in a decrease in the number of medical students in the country of 47.1 per cent. since 1904 or a decrease from 28,142 to 14,891.

Sectarian medical schools are suffering gradual annihilation. The number of homeopathic students has decreased 64.4 per cent. and the eclectic students 76.2 per cent. The number of homeopathic colleges has dropped from twenty-two to eight and the eclectic from ten in 1901 to four at the present time, while the physio-medical and other non-descript schools have been completely eliminated.

During the last fourteen years the number of medical colleges has been reduced from 159 to ninety-

five. According to the classifications of August, 1915, fourteen of the ninety-five are in C class which means almost certain extinction as the boards of registration in more than thirty-two states refuse recognition of the diploma from these colleges. Eighty-two colleges now require one or two years of collegiate preparation in addition to the high school requirements, and it would seem that the laws of adjustment and professional and educational requirements would work out just limitations in the immediate future.

The requirements of our own state board of one year of college preliminary work with the possible addition of a required interne year as now demanded by six colleges and the states of Pennsylvania and New Jersey seem just and sufficient with the elective possibility of more college work if the finances, age and inclination of the individual permit. The harsh and absolute rule of requiring a young man to enter his life work at 27 years of age or later, is subject to serious criticism.

The number of graduates has been reduced from 5,747 to 3,536 or 38.8 per cent. Of these 24 per cent. hold degrees in the arts and sciences.

It is evident that Michigan with three A class colleges is well equipped to carry on the work of high class medical education and fulfil all requirements that may be demanded in the future. It is believed, however, that the requirement of one preliminary college year with the possible addition of one year of interne service in a first class hospital including six years given to medical education and allied subjects beyond those taught in the high school is all sufficient as a minimum standard to maintain a high grade of professional efficiency.

BURT R. SHURLEY, Chairman.

REPORT OF COMMITTEE ON STUDY AND PREVENTION OF TUBERCULOSIS.

Dr Victor C. Vaughan, Jr., of Detroit, Chairman: "Mr. President, and Members of the House of Delegates. Owing to the fact that a large part of the work of the Committee consisted in the tabulation of results of Tuberculosis Day, which was held on August 20, and since we were fortunate enough to secure quite a number of examinations the resulting tabulations taking a great deal of time, we have up to the present been unable to write out our report with regard to this matter.

"During the past year, a great deal of very valuable work has been done in the State of Michigan with regard to the eradication of tuberculosis. The public is at last thoroughly aroused in regard to this matter. Two very important legislative measures have been passed; one providing for a survey to be conducted under the auspices of the Board of Health; the other allowing an increase in the amount of funds which may be expended by county supervisors for the erection of county tuberculosis sanatoria. Your Committee believes thoroughly that the county hospital for advanced cases of tuberculosis is the proper thing. We believe that it is difficult and impossible to get advanced cases to go far from home when there is no hope for them. They are willing and glad to avail themselves of hospital facilities, but only under conditions where their friends and relatives may see them at any time.

"Your Committee believes that tuberculosis can finally be eradicated only by the systematic examination of all individuals. We believe that it is an insidious disease making its onset and establishing itself thoroughly before it manifests its presence by symptoms of illness which would call for a physician's advice. We therefore think that the public should be educated with regard to the periodic examination of themselves. To obtain this result, and also because we believe that the State Medical Society can perform a function which no other organization can, we decided to ask the co-operation of the individual members in setting aside a certain day on which they would either devote their services without financial recompense to the examination of such individuals as presented themselves for the determination of the presence or absence of symptoms of tuberculous disease, or furnish these individuals with information as to where such examination might be obtained. Governor Ferris, who has always taken a high stand with regard to public health matters and medical matters in general, heartily endorsed the idea and issued a proclamation setting aside August 20 as such a date, on which he urged the co-operation of the public and the physicians in attempting to arrive at some conclusion in regard to the amount of tuberculous disease which is present in our midst. The Editor of the *Journal* devoted an entire number, the July number, to the subject of tuberculosis, and at this time the plan of campaign was fully outlined.

Too much stress cannot be laid upon the help of the public press of Michigan. I believe that the public press deserves the greatest credit for their work with regard to tuberculosis. They have acted as a unit with regard to this matter, and the articles which have appeared in the newspapers are better by far than some which have at times appeared in medical journals with regard to the prevention and sane methods of treating this disease.

The results which we have obtained are gratifying. We believe that we have obtained only a report of a small number of examinations. We think that the majority of doctors misunderstood and thought that where signs of the disease were not present no report should be sent in. It was the wish of the Committee to have reports on all individuals examined, but since coming to Grand Rapids I have found that this was frequently misunderstood, which accounts, undoubtedly, for the relatively high percentage of infected individuals who were found on examination. We think that on the 20th of August, a large majority of the members of the State Medical Society became ex-officially active members of the Committee on the Study and Prevention of Tuberculosis, and it is the report of the Society as such that we wish to submit to you at this time.

"We have altogether reports of 430 cases examined. These cases were distributed throughout thirty-nine counties of the state. We have here a map which shows the percentage examined according to population. Midland county did the best with a percentage of examination between 50 and 60 per hundred thousand. Next came Ontonagon and Wayne, with a percentage between 40 and 50 per hundred thousand. Then came Muskegon, Manistee, Hillsdale, Calhoun, Chippewa, with a percentage of

between 30 and 40. Then Osceola, Mecosta, Cass, Eaton and Tuscola between 20 and 30. Then Lapeer, Genesee, Gratiot, Ionia, Barry, Berrien, Houghton, Ottawa and Wexford with a percentage of between 10 and 20; and Newaygo, Montcalm, Kent, Allegan, Van Buren, Clinton, Kalamazoo, Branch, Ingham, Shiawassee, Saginaw, Bay, Sanilac, St. Clair, Menominee, Washtenaw, Monroe, with a percentage below 10. We do not think that this includes all the examinations which were made. These reports were received from 117 different physicians and they furnish us with certain information of value in a medical way. It is a report which I think is of great value, because it represents no personal bias whatsoever. Any individual doing work is necessarily influenced by his personal bias, but the results of the examinations made by 117 different men cannot be subjected to the criticism.

"The questions which were asked were important, we believe, in all instances. The first question was the question of association, and among these 430 cases 146 gave a history of association. The large majority of these had other signs of trouble at the time at which they presented themselves, but among these fifteen were found who came simply because they had at some time been associated with a tuberculous individual. These fifteen had never had pleurisy, pulmonary hemorrhage, cough or expectoration, no sign at all that would cause them to present themselves before a doctor for examination; and yet each of them showed definite physical signs in the chest, accompanied by acceleration of the pulse above 90 and by a rise in temperature above 99.2 F.; 94 cases gave a history of pleurisy. The study of the cases with pleurisy is of particular interest and is indicated on this chart. The tuberculous character of pleurisy with effusion is well illustrated. Among ninety-four cases who gave a history of pleurisy at some time in the past—some of them occurred many years previous—seventy-one were found to be suffering from physical signs of pulmonary tuberculosis at the time of examination; and of these forty-four showed signs of activity, as indicated by a rise in temperature and an acceleration of pulse above normal. Now, since these represent results obtained from examinations made by 117 different men, personal bias which any one observes might have with regard to the tuberculous or non-tuberculous character of ordinary pleurisy with effusion or ordinary pleurisy is done away with.

"The results are even more striking when we come to the case of pulmonary hemorrhage. Among eighty-four cases who gave a definite history of pulmonary hemorrhage at some time in the past, seventy-two were found to show physical signs of tuberculosis at the time of examination, and among this number 40 per cent. showed signs of activity. We believe that the time to treat the man for tuberculosis is when he has his pleurisy or his pulmonary hemorrhage, and we believe that the individuals who suffer from these obvious manifestations of tuberculous disease as early symptoms are indeed fortunate in that they have their attention at once called to the serious nature of the underlying condition.

"Two hundred fifty-one of the cases suffered with cough. One hundred ninety-one of them showed loss of weight. One hundred forty-four showed an elevation of temperature above 99.2. One hundred

two showed an elevation of pulse above 92, and fifteen an elevation of pulse above 110. Among those showing physical signs, 221 showed definite physical signs and fifteen questionable. Provisional diagnosis were made of negative in 149, suspicious in 150, and positive in 131 cases. This diagnosis, of course, is not absolute. No sputum examinations were recorded, as this simply shows the results of the examinations on the single day.

"It is our intention to turn over these blanks to the State Board of Health for use in the conduct of their tuberculosis survey to be conducted later.

"We believe that the educational feature which has been brought out by Tuberculosis Day is of far-reaching importance. Great stress has been laid by the press upon the necessity, not only of examination now, but of examination at times in the future to determine whether or not an individual is well. We think that the State Medical Society has done itself proud and has taken an advanced step in Preventive Medicine in performing this valuable service." (Applause.)

V. C. VAUGHAN, JR., Chairman.

President Peterson: "The President of the State Society oftentimes is called upon to select committees without having very much experience. He does the best he can, and, on the whole, he has usually, as the past of the Society has shown, made his selections well. Now, if I had not done anything else as your President I think I displayed excellent judgment when I appointed this Chairman. (Applause). This is the kind of work we want. I am glad that Dr. Vaughan in his modesty says that the State Medical Society has done a splendid work. It has done this splendid work only because he is a member of the Society and because he is Chairman of this Committee. I think this report should serve as a model of what future Chairmen of committees should do."

There being no objections, report was referred to the Business Committee.

REPORT OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

Dr. L. J. Hirschman: "Mr. President, and Members of the House of Delegates. The proceedings in full of the meeting of the House of Delegates of the American Medical Association were published in the *Journal of the American Medical Association* of July 3, and most of you gentlemen have copies of the *Journal* on file and can find the details of the meeting there. I want just to mention two or three things what happened out there. In the first place, Michigan was one of the very few states in the Union that had its full delegation present. Second, the meeting was a very small one from the point of attendance, but a very successful one from the scientific standpoint; that is, the Association as a whole. Michigan was particularly proud to be represented at that meeting by its worthy member of the profession, Dr. Vaughan, as President. Dr. Vaughan's address before the meeting in commemoration of the opening of the Panama Canal was so popular that the hall was crowded before Dr. Vaughan started to speak, and they were forced to have an overflow meeting in another hall.

"Another thing in which Michigan is particularly

interested in regard to that meeting is the fact that the next meeting of the American Medical Association will be held in Detroit, and I want to say just a word as to that point. A peculiar thing about Michigan's invitation to the American Medical Association was that Michigan was the only state and Detroit, which represented it, was the only city, who invited the American Medical Association purely and solely through professional channels. The other cities who wanted the convention next year, viz., New York, Philadelphia, Cincinnati, all had representatives of their commercial bodies, boards of trade and other institutions of commerce, and the committee of the American Medical Association before whom these representatives appeared gave it as their opinion that it was time that the great body of dignified medical men should be influenced more by the wishes of the profession of a state than by commercial bodies of that state. We were fortunate enough to be the only delegation who came there and invited the Association purely because the profession wanted them.

"The thing was that our invitation came through professional channels and Detroit now wants the support of the State Society in showing them that Michigan is a pretty good place to meet." (Applause.)

L. J. HIRSCHMAN, Chairman.

The reports of all the standing and special committees were referred to the Business Committee.

The President announced the next order of business the nomination of members of the Committee on Nominations.

The names of Drs. J. B. Campbell, of Stanwood; J. D. Brooks, of Grandville; J. A. Rowley, of Durand; H. A. Stewart, of Flint; Carl Moll, of Kenton; J. W. Vaughan, of Detroit; Jas. Cleland, jr., of Detroit, and E. L. Eggleston, of Battle Creek were presented.

Moved by Dr. J. A. Wessinger, of Ann Arbor, and second by Dr. G. E. Frothingham, of Detroit, that nominations be closed. Carried.

President Peterson appointed as tellers, Dr. W. R. Parker, of Detroit; Dr. F. B. Tibbals, of Detroit, and Dr. W. B. Bird, of Flint.

The Secretary announced that the ballot showed the five receiving the highest number of votes to be Drs. Rowley, Moll, Campbell, Stewart and Brooks.

Dr. F. B. Tibbals, of Detroit, moved that the five members receiving the highest number of votes be declared elected as members of the Committee. Seconded by Dr. E. J. Witt, St. Joseph. Carried.

Dr. V. A. Chapman, of Muskegon, made the following motion:

"I move you, Mr. President, that the following amendment be made to the By-Laws, or it would probably have to be introduced in the form of a new section to the By-Laws, as follows:

"The Councilor of each District shall be nominated and elected by Delegates from that District only. The Delegates from each District having a retiring Councilor shall meet and organize at the time and place of the annual session of the Society at the call of the First Vice-President of the Society, who shall preside at this meeting. They shall nominate and elect a Councilor to represent their respective Districts in the Council body. All conflicting portions of the By-Laws, particularly the following ten words in Section IV of Chapter

VI. be and hereby are repealed, stricken out, and made ineffective, viz., 'The Councillors from the District in which there are vacancies.' "

There being no objections, the President announced the proposed amendment would be referred to the Business Committee.

President Peterson appointed as members of the Business Committee, Drs. J. G. Turner, of Marquette; I. L. Spaulding, of Lenawee county; J. A. Wessinger, of Washtenaw county; W. J. Wilson, Jr., of Wayne county, and J. J. Mersen, of Ottawa county, Dr. Turner to act as Chairman.

There being no further business, the meeting adjourned, at 10:00 a. m., to reconvene on the following day.

PROCEEDINGS OF THE HOUSE OF DELEGATES.

SECOND SESSION.

The second session of the House of Delegates was called to order at the Fountain Street Baptist Church, Grand Rapids, at 8:30 a. m., on the morning of September 2, 1915, with the President, Dr. Peterson, presiding, and the following Delegates responding to roll call:

Frank, Witt, Tonkin, Ennis, Stealy, Stewart, Bird, Denny, Turner, Young, Rulison, Munro, Bernstein, Van Ess, Brook, Baker, Wenger, Ramsdell, Moll, Campbell, Lester, Chapman, Holm, Mersen, McKinney, Rowley, MacKenzie, Oden, Clark, Wessinger, Blair, Carstens, Tibbals, Blanchard, Hirschman, Lawrence, Campbell, Frothingham, Hewitt, Simpson, Clealand, Jennings, Wilson.—43.

Minutes of the previous session were read and approved.

Report of the Business Committee was made by Dr. J. G. Turner, of Marquette, Chairman.

Your Business Committee recommend that no fee schedule be adopted by the State Society, but that the matter of fees be left to the discretion of the individual members of the component societies and that the present fee schedule now in existence be revoked.

Your committee heartily indorse the reports of the various committees as rendered to this body.

Following the recommendation of the Council we recommend that the several amendments proposed for the abolishment of certain committees be enacted and that a new committee as recommended by the Council on Civic and Industrial Relationship be established. We further recommend that no special committee on cancer be appointed but that the duties that would fall to such a committee be assumed by the Committee on Industrial and Civic Relationship.

We recommend that the amendments submitted for a new method of electing Councilors be not enacted and that the members of the Council continue to be selected as at present.

We recommend that equal privileges be extended in *The Journal* to the various affiliated medical organizations who may from time to time desire to have parts or all of their transactions published. To this end we approve the recommendation of the Council relative to the method of supervision of articles offered for publication by the Publication Committee of the Council.

The Committee endorses the recommendation of

the Council for the election of Channing W. Barrette of Chicago as a non-resident honorary member.

We recommend that hereafter the first session of the House of Delegates be held at 8:30 p. m. of the day preceding the first general session of the Society.

The Committee also suggests that through the proper channel some action be taken to have the bill known as the Wyoming Bill, for the systematic examination of the eyes and ears of school children, brought before the Legislature at its coming session.

J. G. TURNER, Chairman.

I. L. SPAULDING.

JOHN A. WESSINGER.

J. J. MERSEN.

WALTER J. WILSON, Jr.

Dr. C. W. Clark, of Caro; I move that the report of the Committee be adopted as read.

Supported by Dr. G. E. Frothingham, of Detroit. Carried.

Amendment I of the Report of the Council read by the Secretary at the direction of the President.

Dr. W. J. Wilson, Jr., of Detroit, moved its adoption. Seconded by Dr. F. B. Tibbals, of Detroit, and approved.

Dr. A. M. Hume, of Owosso: An amendment to the By-Laws was submitted yesterday by Dr. Chapman, and might be taken up at this time.

Suggested amendment read by Secretary. (See minutes of first session.)

Dr. C. W. Clark, of Caro, moved that the amendment be not adopted.

Seconded by Dr. A. Holm, of LeRoy, and approved.

Report of Nominating Committee, made by Dr. J. D. Brooks, of Kent County.

REPORT OF NOMINATING COMMITTEE.

To the House of Delegates, M.S.M.S.:

Gentlemen: Your Nominating Committee is pleased to report the following nominations:

First Vice President—Ralph H. Spencer, Grand Rapids.

Second Vice President—L. J. Hirschman, Detroit.

Third Vice President, C. E. Boys, Kalamazoo.

Fourth Vice President—H. J. Meyer, Saginaw.

Delegate to A.M.A. to succeed expired term of E. T. Abrams—A. I. Lawbaugh, Calumet.

For Councilors:

First District—G. L. Kiefer, Detroit.

Third District—S. K. Church, Marshall.

Sixth District—A. M. Hume, Owosso.

Eleventh District—W. T. Dodge, Big Rapids.

Thirteenth District—F. C. Witter, Petoskey.

Place of next meeting, Houghton.

Respectfully submitted,

J. A. ROWLEY.

C. F. MOLL.

J. B. CAMPBELL.

PETER STEWART.

J. D. BROOKS, Chairman.

Dr. Brooks moved its adoption. Supported by Dr. E. J. Bernstein of Kalamazoo. Approved.

President Peterson announced the meeting would first take up the election of the First Vice-President.

Dr J. D. Brooks, of Kent county, moved that as the report was felt to be consensus of opinion of the House of Delegates, the nominees be declared elected.

Supported by Dr. L. J. Ramsdell, of Manistee, and approved.

Dr. C. W. Clark, of Caro, moved that the place of meeting, as suggested by the Nominating Committee, be approved.

Seconded by Dr. F. B. Tibbals, of Wayne County. Approved.

There being no further business before the House, the session adjourned, *sine die*, at 9:00 a. m.

REUBEN PETERSON, President.
F. C. WARNSHUIS, Secretary.

PROCEEDINGS OF THE FIRST GENERAL SESSION.

The General Session of the Michigan State Medical Society was called to order at the Fountain Street Baptist Church, in Grand Rapids, at 10:00 a. m., on September 1, with President Peterson presiding.

The audience rose while the invocation was delivered by Reverend Mr. Alfred Wishart, Grand Rapids:

"Our Father and our God, we are glad we are here today as old friends and associates in a great calling. We pray today not because we believe Thou wilt do miraculously for us what we must do for ourselves, but we desire at the outset of this Convention to express our deepest longings and our highest aspirations, we desire to have our minds free from prejudice, we desire to be unselfish in our search for the truth, we desire to know the laws of life that we may live by them and so help men to live by them that the world of mankind may advance in health, in intelligence, in prosperity, in spiritual well-being. We pray that Thou wilt help us to direct our scientific attainments, our knowledge of the truth, of right, by a high and holy purpose and so strip our lives of everything that is unworthy, everything that is beneath the true man who seeks to serve, to bless and to help. We ask it in the Master's name. Amen."

President Peterson: In the absence of the Mayor of Grand Rapids, Mr. DeBoer will give the address of welcome.

Mr. De Boer: Mr. President, Ladies and Gentlemen of the Convention. As President of the Council, in the absence of the Mayor, it is with a great deal of pleasure that I have the honor and the privilege in behalf of the official family of Grand Rapids to welcome you here. While we are always glad to meet and to greet the stranger that calls upon us, especially when he comes well vouched for, we are doubly glad to greet and to meet the doctors of the state in this their Fiftieth Annual Meeting, because your profession, gentlemen, is a profession that stands for service, service to humanity. From the very beginning of our lives, continuing on throughout life, making softer Life's rugged pathway, and then at the close soothing our dying hour, you gentlemen of the medical profession are upon the firing line, ever watching, guarding and protecting the human race against the foe that would threaten us. I like to think of the old family doctor, subject to call twenty-four hours each day, whether the day be pleasant, whether the night be dark or stormy, not seeking his own inclination or his desires or his own financial gain or, perhaps, the demands of family, but heeding the call of duty whenever and wherever that call may come. And I think, gentlemen, it is a shame and to the discredit of the American people that too often, although you are the first that are called when

sickness and when misfortune overtake us, you are the last to be paid if you are paid at all. I think the records of your business would show a larger percentage of unpaid bills upon your books than any other business in the wide, wide world, and I am reminded this morning of the words of the Great Physician, that "greater things than this shall ye do."

I think sometimes, as I read of the marvellous work that you gentlemen of the medical world are doing in this Twentieth Century, that it is true that that prophecy has been brought to pass. The blind are made to see, the deaf to hear, the dumb speak, the lame walk; why, even you would bring them back from the gates of death itself! I know that if I were to talk here for an hour, I could not say more on behalf of the official family of Grand Rapids than to say we are glad you are here, take off your wraps and make yourself at home, and when the work of this Association is done may you not alone go with recollections of a pleasant visit, but may you carry back with you to your communities an inspiration to larger and better service than you ever had in the past."

President Peterson: I have to announce the address of welcome, by Dr. Eugene Boise, of Grand Rapids on behalf of the Kent County Medical Society

Dr. Boise: Mr. President. There is a tradition whose origin may have been lost in the mists of prehistoric ages that a gathering of this kind should be ushered in with an address of welcome, and a response. It may be that there are some similar to this to whom such a procedure would be peculiarly proper, but surely not to us, gathered as we are as children beneath a parental roof-tree to celebrate a fiftieth birthday anniversary. The relation that our Society stands to us, its offspring, may well be likened to the relation between parent and children, guiding, chiding, advising, aiding—it may be—till the children become self-supporting and self-governing. From birth, through the struggling years of infancy, our Society was cared for by strong men who have passed on, men to whom the word hardship was merely an incentive to greater effort, men who loved their profession, men who never allowed anything to come between them and their work, men to whom the saving of life was the one thing worth while; men who have left their imprint on succeeding generations, men whose influence we still feel and whom we still honor and strive to emulate. To these men our Society owes much. But it has not yet reached the zenith of its power. During the past fifty years our Society has kept even pace with the advances in medicine and in surgery. It has done its share of original work, and one thing it has accomplished, perhaps not the least of its accomplishments, it has created and fostered a live interest for scientific research in the minds of its young men.

Looking at it from the standpoint of such work, in the past fifty years the work has been good. From the character of the work that has been done in the past, and from the evident devotion of the members to their Society at the present day, it may well be predicted that during the fifty years to come there will be no decadence.

Kent County Medical Society feels highly honored that it has been given the privilege of entertaining you in this semi-centennial celebration. I, as its representative, extend to you, ladies and gentlemen, to you members of the Michigan State Medical Society, our guests, a most heartfelt welcome. We one and all pledge ourselves to do all that may to cause this meeting to linger long in your memories as a most pleasant occasion. (Applause.)

President Peterson: Mr. DeBoer and Dr. Boise, in behalf of the Michigan State Medical Society, I thank you for these kindly words of welcome. It is peculiarly fitting that we hold the Fiftieth Anniversary here in Grand Rapids. It may not be known to most of you that the initial movement for the formation of this Society in 1866, although the call went out from Detroit in a circular letter addressed to the profession by Dr. Moss Stewart, was inaugurated by the Grand Rapids Medical and Surgical Society. This old Society was in existence in 1865-66, with Dr. Pratt, President; Dr. Henderson, Vice-President; Dr. G. K. Johnson Corresponding Secretary, and Dr. William Wood, Recording Secretary.

It goes without saying that when we knew this

meeting was to be held in Grand Rapids we also knew we would have a cordial welcome. We remember the last time we met here, in 1903, I think it was, and what a good time we had and how profitable the meeting was, and when we read the program which came to us in the last issue of the *Journal* we knew the preparedness you were making to receive the members of this Society. We had a sample of it last night and surely it starts off very well. We want to visit your hospitals, the new hospital that we hear so much about, the public buildings, the clubs, in fact, all of those things for which Grand Rapids is renowned. Grand Rapids is not entirely a furniture city; it is known for more than its furniture, although you cannot speak of Grand Rapids but what somebody says, "I have been to Grand Rapids to buy furniture." You remember the poem of Eugene Field, I think it was, where he speaks of being in Holland or some foreign country and seeing a very fine bed that Kings had slept in, and he thought that he must have that bed. On asking the price, regretfully he found that his purse would not enable him to purchase it. Just as he turned away he saw a little ticket on the bed which read as follows: "Made by Berkey & Gay, Grand Rapids, Mich., U. S. A."

We sincerely thank you for your cordial words of welcome and we know that this will be a banner meeting in the history of the Society. (Applause.)

President Peterson: Next will be the Report of the House of Delegates by Dr. F. C. Warnshuis, Secretary. A resume of the transactions of the House of Delegates was given by the State Secretary.

Announcement of meetings of committees, of entertainments, and of meeting of the Michigan State Anti-Tuberculosis Society was made by the Secretary.

The Secretary read the following telegram:

"J. G. Turner, Pantlind Hotel, Grand Rapids, Michigan. My son died at two this afternoon." Signed, A. I. Lawbaugh.

Dr. H. B. Joy, of Calumet: I would like to move that the Secretary of the Society be instructed to communicate with Dr. Lawbaugh, expressing the condolence of this Society in the bereavement which he has just suffered in the loss of his son.

Seconded and unanimously approved by rising vote.

The following telegram was sent:

Dr. A. I. Lawbaugh, Calumet, Mich.

The members of the Michigan State Medical Society in convention assembled tender you their sincerest sympathy in your great sorrow.

F. C. Warnshuis, Secretary.

Dr. L. W. Toles, Lansing: I think the Michigan State Medical Society is peculiar in that it provides a place on the program for the Vice-President. I have the pleasure of announcing the Annual Address by the President of the Michigan State Medical Society, Dr. Reuben Peterson, Ann Arbor."

The President then rendered his annual address which is published in this issue.

President Peterson: It gives your President a great deal of pleasure to be able to introduce the next speaker. I had considerable difficulty in getting him on the program. Finally he accepted, much to our pleasure. I have the greatest pleasure of introducing to you Dr. Theodore A. McGraw, one of the founders of this Society, who will address us on "The Medical Schools of the Last Half Century." (Audience rose, applauding.)

Dr. McGraw's address is published in this issue.

President Peterson: We are proud to have with us today another of the founders of the Society. It is my pleasure to be able to introduce Dr. George E. Ranney, of Lansing. (Audience rose, applauding.)

Address: "Retrospect of the Early History of the Michigan State Medical Society."

This address will be found in this issue.

President Peterson: Dr. McGraw and Dr. Ranney, on behalf of the Society I want to express to you two gentlemen the great pleasure it has been to the members of the Society to have you with us. We know that it was rather a task to come and appear before us, but we appreciate it. We know your worth, we know what you have done for the Society, which can be found in the transactions, and is known to everybody. As a Society, we would like to present to you a token of our love and appreciation and therefore it gives me great pleasure to present on behalf of the Society these floral tributes. (Applause.)

Dr. C. B. Burr, of Flint: I move a rising vote of thanks to Drs. Ranney and McGraw.

Seconded and approved.

Dr. Ranney: Mr. President, and Members of the Society: I have been treated by this Society far beyond my deserts and I would be recreant to the impulse of a grateful heart not to express to you sincere and cordial thanks for the manner in which I have been received.

Dr. McGraw: Dr. Ranney has spoken my sentiments.

President Peterson: I think it would not be well for this meeting to close without asking Dr. Craig, the Secretary of the American Medical Association, to say a few words to us.

Dr. Craig: Mr. Chairman, as Secretary of the American Medical Association, I am glad to be with you today and officially to bear the compliments of the American Medical Association to this, its component body, to assure you of the interest felt in this, which I understand from what I have heard this morning is an anniversary occasion, and to say to you that we feel certain that the time this Association and this Society has spent in reminiscing in history, in a study of the philosophy of history, if you please, has been well spent, because your State Association, together with the profession of this country, at large, is on the threshold of a new service which it must perform. The physician heretofore in their organizations have well devoted their time to the study of the problems of the profession. We must not neglect that in the future, but we have to remember that we are called upon to serve our country as citizens first, as physician citizens, and the great sociological problems which have been presented to your Society this morning and to which you are

preparing to devote yourself in the effort to solve them must be solved, because you are citizens of the country, because you are citizens of the country having a special knowledge. You have to lead the people in all these sociologic problems in order that the people themselves may be conserved. Let me once more congratulate you upon the auspicious beginning of this Assembly (Applause.)

President Peterson: Nominations for President are now in order.

Dr. A. F. Fischer, of Hancock: I would like to place before you the name of a man representing the Upper Peninsula District, a man of big heart and wide experience and a man whom I am sure will do justice to this important office. I have the pleasure of presenting for nomination the name of A. W. Hornbogen, of Marquette.

Dr. A. P. Biddle, of Detroit: I second the nomination.

Dr. J. B. Campbell, of Stanwood: I move that the nominations be closed.

Seconded by Dr. L. W. Toles, of Lansing. Approved.

There being no further business before the Session, the meeting adjourned, at 1:00 p. m. to reconvene on September 2.

Second Session, September 2, 1915.

The second session of the General Session was called to order at the Fountain Street Baptist Church, in Grand Rapids, at 11:30 a. m., on September 2, 1915, with President Peterson presiding.

There being no objection, the reading of the minutes of the previous session was dispensed with.

The report of the House of Delegates read by the Secretary.

The Secretary announced that a Tuberculosis Clinic would be held after the close of the Sessions. He further announced as follows:

"The Secretary is pleased to announce that the total registration at eleven o'clock this morning was 618. This without doubt is the largest attendance at any meeting that the Michigan State Medical Society has ever held. Although Detroit had a registration of 638, at the meeting held there four years ago, I consider that Detroit had a large number from its own city which made that registration reach the large figure. I believe this is the largest meeting that has ever been held by representative doctors from throughout the State of Michigan."

President Peterson asked for the report of the Nomination Committee on the election of President.

Dr. J. D. Brooks, of Kent county, announced a total of 618 votes cast, all for Dr. A. W. Hornbogen, of Marquette.

President Peterson requested Drs. J. G. Turner and A. M. Hume to escort the newly elected President to the rostrum.

Dr. Peterson: It gives me great pleasure, Dr. Hornbogen, to welcome you to the Presidency of this Society, an office to which you have been unanimously elected. It also gives me great pleasure to pin upon you the badge of office.

President Hornbogen: Mr. Ex-President, and

Members of the State Medical Society of Michigan. I had a long speech of acceptance prepared early this morning, because I was told I was to get on the rostrum at about 10:30. I have since forgotten it, and I feel now like the embryonic surgeon who in opening his first abdomen, it looked so difficult to him that he thought the conditions in that abdomen were insurmountable.

I am glad that the members of this Society have decided to go to the Upper Peninsula of Michigan for their next meeting, in 1916. I am sure that when they come away from Houghton they will have that same gratitude in their hearts for the Houghton County men that they feel today for each and every member of the Kent County Medical Society. (Applause). I know that all the members of the Upper Peninsula Society will be grateful to you for having conferred upon one of its humblest members the honor of being President of the State Medical Society. I thank you. (Applause.)

Dr. Victor C. Vaughan, Jr., of Detroit: Mr. President, your Tuberculosis Committee would like to offer the following resolution:

RESOLUTION.

WHEREAS—The Michigan State Board of Health has outlined a campaign against tuberculosis, making a survey of every county in the state, hoping thereby to locate a large number of the victims of this disease; whereas we believe that this campaign has great possibilities for starting a movement which will materially reduce the death rate from tuberculosis and eventually eradicate the disease. With a death rate from tuberculosis of about 87 per 100,000, which is lower than that of all other states except one, Michigan bids fair to be the first state to whip the disease, and,

WHEREAS—The Board of Health seeks the hearty co-operation of every physician in Michigan.

BE IT THEREFORE RESOLVED—That the Michigan State Medical Society endorse the plan outlined by the board and that we offer our heartiest and most earnest co-operation in this work and that we offer all the assistance which it is possible for us to give and that we strongly urge upon the Medical Profession of Michigan to do likewise.

(Signed). Tuberculosis Committee.

A. F. FISCHER.
G. L. DIXON.
J. T. COOPER.
A. H. BURLESON.
A. H. ROCKWELL.
C. M. WILBURN.
V. C. VAUGHAN, Jr., Chairman

Dr. C. H. Hitchcock, of Detroit, moved the adoption of the resolution. Seconded by Dr. W. H. Sawyer, and approved.

Dr. J. D. Brooks, of Grandville: I have the following resolution to offer:

"INASMUCH as the newspaper is a powerful factor in the dissemination of information and,

WHEREAS—The Press of Michigan has taken a decided stand in the conservation of Public Health, particularly in the campaign against tuberculosis, therefore be it,

RESOLVED—That we, the members of the Michigan State Medical Society, extend to the Press of Michigan our sincere appreciation and thanks for the most cordial manner in which they have assisted us in our struggle for the eradication of preventable disease. Be it further

RESOLVED—That we hope and trust that the harmonious relations now existing may continue in the future for "humanity's sake."

Its adoption moved by Dr. Brooks.

Seconded by Dr. V. C. Vaughan, Jr., of Detroit. Approved.

Dr. C. B. Burr, of Flint, spoke as follows:

Mr. President, the program of this meeting gives evidence of great efficiency, great activity and thorough preparedness on the part of the retiring officers and they are thankable heartily for the great good which has come to us from getting together on this occasion. Personally, I have never listened to a more enjoyable program in general session than that of yesterday morning and I feel that we would be lacking altogether in gratitude if we did not from our hearts thank those who participated in this for the great good which they did us. The officers have been untiring in their activity. As to the part of the program which the Kent County Medical Society has prepared for us, I can only say that it bears out the best tradition of the Society and good will of the profession of Kent county. The program was perfect in every detail, and we owe to the members of Kent County Medical Society, collectively and individually, a most cordial vote of thanks. I move, Mr. President, that the retiring officers and the members of the Kent County Medical Society be extended a vote of thanks for the successful meeting by a rising vote.

Supported by Dr. G. E. Frothingham, of Detroit.
Carried.

Moved by Dr. G. E. Frothingham, of Detroit, seconded by Dr. F. B. Walker, of Detroit, that the session adjourn *sine dine*.

President Hornbogen declared the General Session adjourned.

F. C. WARNSHUIS, Secretary.

SEVENTH ANNUAL MEETING OF THE COUNTY SECRETARIES' ASSOCIATION.

The Seventh Annual Meeting County Secretaries' Association called to order by the President, Dr. C. B. Fulkerson.

Minutes of previous meeting read and approved. Forty members responded to roll call. Dr. F. C. Kinsey of Kent was then elected President for the ensuing year. Dr. A. R. McKinney of Saginaw was elected as Secretary.

The Society then adjourned to the Monk's room, Peninsular Club where an elaborate dinner was tendered by the Council.

President C. B. Fulkerson then delivered his annual address.

Dr. Warnshuis, general Secretary, after thanking all secretaries for their hearty co-operation in the past year's work, outlined a plan of discussion for the evening round-table.

1. Why do not all eligible physicians become affiliated?
2. How may we best interest our members in our county meetings?

Dr. A. R. Craig, Secretary of the American Medical Association then responded to a call for an address, taking as his subject, "Organization." He strongly emphasized the necessity of conducting every unit throughout the state in strict accord with the rules and Constitution of the organization. He spoke very highly of the efficiency of the State Society on this our fiftieth anniversary.

Dr. Dodge, Chairman of the Council then responded with a very timely talk in an advisory way.

Dr. Reuben Peterson, President, State Society

then spoke on the many difficulties that confront the County Secretary. He referred also to the 600 or 700 doctors in Michigan, who are eligible and yet are not members of our Society. Why is this?

A vote of thanks was then extended to the Council for the elaborate dinner.

Dr. Fulkerson then discussed the Value of Outside Talent in County Society Meetings.

Dr. Poppen, of Ottawa, outlined plan of work in his home county. Nine meetings are held during the year with a banquet in December and a picnic during the summer to which the ladies are invited. He also suggested that the Society labor to the end that every Township Health Officer must be a trained physician.

Dr. Kingsley of Calhoun lined up his thoughts in the matter of number of meetings held during the year. He advised holding meetings every month except July and August and he also strongly advocated publishing a "Bulletin" strongly in favor of wiping out all little, petty, jealousies. He finds evening meetings, say at 8. p. m., most efficient.

Dr. Oden, of Cadillac, gave his experience in the Tri-County. In this locality case reports bring out the best interests. He spoke at some length on care of county poor and also referred to their annual banquet in winter and picnic in summer.

Dr. Kinsey of Kent spoke on the value of the Secretary where he directs his efforts to a personal solicitation of the medical men in his county. He also spoke in the value of the Society "Bulletin" mentioning the fact that the idea of a county "Bulletin" originated with Dr. Warnshuis.

Dr. McKinney, of Saginaw, finds a combination program the most successful. "We met in a central place down town. This has helped greatly in the attendance. We use outside talent in our meetings."

Dr. Hart, of St. John's mentioned their difficulty in getting men to attend the meetings.. He spoke on the Cabot case report method as a stimulus to a better attendance.

Dr. Boyer of St. Joseph obtained the best results in quarterly meetings of his society.

Dr. Garvin, Tuscola, advocated holding a clinic at the county meetings. Cases presented receive the best discussion, better than sent papers.

Dr. Conrad of Houghton selects title for paper and then invited a member to read said paper on discuss the subject assigned. He suggested that the older men be very careful in the criticism of the remarks of the young men in the society.

Dr. Fralick of Montcalm thought the double card idea of invitation an excellent method of getting the members out to the meetings.

Dr. Fulkerson continued the discussion relative to the value of a "Bulletin." At Kalamazoo the dues were increased to \$8.00 per annum; in this way they could afford to drop all "ads" from the Bulletin." He

advocated using local talent as far as possible in Society meetings.

Adjourned.

Signed,

J. A. WESSINGER, Secretary.

REGISTRATION

ALCONA COUNTY.—A. A. Stuart.—1.

ALLEGAN COUNTY.—Eugene T. Brunson, G. A. Bachman, J. D. Campbell, L. E. Clark, Milton Chase, P. H. Fisher, Arthur Hazlewood, O. D. Hindnutt, N. E. Leighton, Elmer D. Osmun, A. L. Robinson, Robt. P. Stark, Malcolm Smith, N. L. Van Horn, W. R. Vaughan, R. J. Walker.—16.

ALPENA COUNTY.—R. Smith.—1.

BAY COUNTY.—R. W. Brown, J. A. Keho, C. M. Swantek, A. J. Zaremba.—4.

BARRY COUNTY.—Guy. C. Keller, G. W. Lowry, J. W. Rigtierink, C. S. McIntyre, W. A. Singleton, A. Woodburne.—6.

BARAGA COUNTY.—R. S. Buckland, Frank L. Marshall.—2.

BERRIEN COUNTY.—W. L. Curtiss, W. L. Helkie, H. C. Hill, Carl A. Mitchell, C. N. Sowers, E. J. Witt.—6.

BRANCH COUNTY.—A. G. Holbrook, Samuel Schultz, D. H. Wood, H. W. Whitmore.—4.

CALHOUN COUNTY.—H. R. Allen, James T. Case, Benton N. Colver, E. M. Chauncey, S. K. Church, J. E. Cooper, E. L. Eggleston, A. B. Grant, W. L. Godfrey, G. C. Hafford, J. J. Holes, Meta Howard, Wilfred Haughey, A. F. Kingsley, M. A. Mortensen, A. E. MacGregor, Jno. L. Ramsdell, R. D. Sleight, P. C. Stone, Chas. E. Stewart, Chas. R. W. Southwick, L. H. Tower.—22.

CASS COUNTY.—E. W. Tonkin, W. C. McCutcheon.—2.

CHARLEVOIX COUNTY.—A. M. Wilkinson.—1.

CHIPPEWA COUNTY.—C. J. Ennis, F. H. Husband, James J. Lyon.—3.

CLINTON COUNTY.—Eugene Hart, Arthur O. Hart, James E. Taylor, W. A. Scott.—4.

EATON COUNTY.—A. H. Burleson, Francis R. Blanchard, D. Eddhran, F. J. Knight, A. I. Laughlin, W. E. Newark, T. L. Peacock, V. J. Rickard, H. C. Rockwell, F. W. Sassaman, A. R. Stealy, Chas. A. Stinson, W. M. Taylor.—13.

EMMET COUNTY.—G. E. Frank, A. A. Grillet, G. W. Nihart, E. J. O'Brien, J. J. Reycraft, F. C. Witter.—6.

GENESEE COUNTY.—G. H. Pahlman, E. H. Bailey, W. G. Bird, C. B. Burr, J. C. Benson, C. F. Clark, Henry Cook, Carl D. Chapell, F. L. Covert, J. W. Evers, D. S. Jickling, W. C. Kelly, J. G. R. Mauwaring, F. B. Miner, R. S. Morrish, H. E. Randall, F. E. Reeder, B. R. Sleeman, H. A. Stewart, A. S. Wheelock.—20.

GRATIOT COUNTY.—I. W. Brainerd, C. M. Denney, B. C. Hall, E. M. Highfield, C. T. Pankhurst, J. R. Shaffer.—6.

GOGEBIC COUNTY.—H. M. Weed.—1.

GRAND TRAVERS COUNTY.—Sara T. Chase, E. B. Miner.—2.

HILLSDALE COUNTY.—B. F. Green, W. H. Sawyer.—2.

HOUGHTON COUNTY.—Edw. T. Abrams, Geo. A. Conrad, Arthur D. Fischer, Robt. B. Harkness, H. M. Joy, John MacRae, J. G. Turner.—7.

HURON COUNTY.—S. B. Young.—1.

INGHAM COUNTY.—H. S. Bartholomew, E. I. Carr, M. L. Cushman, F. J. Drolett, Wm. De Kleine, O. H. Freeland, Fred H. Harris, Freeman A. Jones, C. H. Murphy, Samuel Osborn, John S. Owen, G. E. Ranney, John G. Rulison, T. M. Sanford, A. A. Spoor, L. W. Toles, O. A. Tooker, W. G. Wright.—18.

IONIA COUNTY.—R. N. Alton, Chas. B. Gauss, R. H. Haskell, H. B. Knapp, V. H. Kitson, Elmer W. Little, F. W. Martin, F. M. Marsh, F. L. Moss, J. J. McCann, Nelson McLaughlin, C. H. Peabody, F. B. Pedrick, J. F. Pinkham, P. C. Robertson, G. A. Stanton, D. H. Strahan, J. A. Warner, Geo. P. Winchell, R. R. Whitten.—20.

ISABELLE COUNTY.—Chas. D. Pullen.—1.

JACKSON COUNTY.—A. E. Bulson, W. H. Enders, W. L. Pinton, Wm. Lyon, C. D. Munro, C. G. Parnall, Geo. A. Seybold.—7.

KENT COUNTY.—C. H. Anderson, J. A. Ardiel, Ralph Apted, G. H. Baert, Louis Barth, A. J. Baker, G. L. Bond, E. Boise, H. J. Beel, E. P. Billings, J. E. Bolender, H. M. Blackburn, Chas. Bloodgood, Raymond C. Breece, F. A. Boet, E. S.

Browning, J. D. Brook, Jas. S. Brotherhood, Earle J. Byers, A. M. Campbell, J. D. Campbell, J. F. Cardwell, H. S. Collin, B. R. Corbus, J. C. Coryell, A. S. Cornell, A. W. Crane, H. J. Chadwick, L. H. Chamberlain, E. W. Dales, E. E. Dell, R. H. DeCoux, J. M. DeKraker, H. W. Dingman, W. J. DuBois, P. J. DePree, Joe DePree, J. A. DeVore, R. R. Eaton, G. A. Easton, Jas. S. Edwards, F. L. Fannaff, R. W. Fuller, Wm. Fuller, J. H. Gervers, M. C. Greene, T. D. Gordon, F. J. Groner, A. G. Graybiel, J. H. Haas, J. D. Hastie, Wm. F. Hake, Henry Hulst, H. W. Heasley, J. A. Heasley, J. Holcomb, J. G. Huizinga, Wm. A. Hyland, T. C. Irwin, C. H. Johnston, J. C. Kenning, E. L. Kendall, Frank C. Kinsey, R. J. Kirkland, John Kremer, Peter J. Krickard, F. J. Lee, Simeon LeRoy, W. D. Lyman, G. L. McBride, John A. McColl, D. A. McLean, A. G. MacPherson, J. A. McPherson, Reuben Maurits, Alex. M. Martin, W. R. Manlone, Jacob E. Mengs, Paul Miller, J. R. Montgomery, Cora A. Moon, V. M. Moore, A. Noordewier, Wm. Northrup, A. Nyland, F. A. Osowski, C. E. Patterson, E. W. E. Paterson, J. F. Peppler, J. W. Powers, Henry J. Pyle, Wynand Pyle, M. E. Roberts, F. D. Robertson, John R. Rogers, Louis A. Roller, R. E. Rooks, F. A. Rutherford, Wm. F. Rows, S. F. Rozema, E. S. Sevensma, A. Sevensma, S. D. Swantek, M. C. Sinclair, J. W. Shanks, C. C. Slemmons, Ralph H. Spencer, R. R. Smith, F. N. Smith, G. H. Southwick, F. H. Shorts, G. J. Stuart, Edwin B. Strong, E. W. Schoor, P. Schmidt, P. L. Thompson, A. B. Thompson, Newton I. Tibbits, M. L. Teeple, S. Porter Tuttle, John VerMeulen, Wm. H. Veenboer, J. D. Vyn, D. J. Wallace, F. E. Warren, F. C. Warnshuis, G. W. Webster, D. E. Welsh, A. V. Wenger, John N. Wenger, Alden Williams, W. E. Wilson, Curtis Wolford, Jos. B. Whinery, W. G. Young.—135.

KALAMAZOO COUNTY.—C. E. Boys, E. J. Bernstein, Alice B. Ellsworth, Clark B. Enkerson, W. S. Frnkison, Sherman Gregg, Wm. C. Huyser, G. L. Inch, John B. Jackson, W. N. Kenzie, S. R. Light, R. R. Leighton, R. G. Leland, C. H. McKain, Benj. Nibbelink, E. J. Hobbs, A. I. Noble, Della P. Pierce, Eva Rawlings, L. V. Rogers, A. H. Rockwell, B. A. Shepard, F. Shillito, D. J. Scholten, W. A. Stone, J. H. Van Nest, R. E. Weeks, A. H. Wicks.—28.

LAKE COUNTY.—Earl Fairbanks.—1.

LAPEER COUNTY.—W. J. Kay, D. J. O'Brien, Peter Stewart.—3.

LENAWEE COUNTY.—Herbert R. Conklin, R. M. Eccles, G. H. Lamley, I. L. Spaulding.—4.

LIVINGSTON COUNTY.—J. A. McGarvagh, E. B. Pierce.—2.

MARQUETTE COUNTY.—A. W. Hornbogen, R. C. Main, C. F. Moll, O. G. Youngquis.—4.

MANISTEE COUNTY.—L. A. Lewis, H. A. Ramsdell, S. S. Ramsdell.—5.

MASON COUNTY.—C. M. Spencer, G. A. Switzer.—2.

MECOSTA COUNTY.—J. L. Burkart, J. B. Campbell, W. T. Dodge, B. L. Franklin, C. F. Karshner, J. McNece, John Snyder, G. H. Yeo.—8.

MIDLAND COUNTY.—C. V. High, A. A. McKay.—2.

MONTCALM COUNTY.—A. S. Barr, H. L. Bower, E. P. Bunce, M. E. Danforth, H. N. Fleker, F. J. Fralick, J. R. Hansen, F. A. Johnson, L. E. Kelsey, Walter A. Lee, Will H. Lester, J. O. Nelson, Jas. Purdon, A. B. Penton, A. E. Savage, J. D. Whelpley, E. M. Whelpley.—18.

MUSKEGON COUNTY.—C. J. Eloom, V. A. Chapman, J. T. Cramer, J. T. Cooper, J. M. Denslow, S. J. Drummond, L. N. Eames, F. W. Garber, I. M. J. Hotvedt, L. C. Knight, V. S. Laurin, G. L. LeFevre, F. B. Marshall, Jacob Oosting, P. A. Quick, P. J. Sullivan, C. F. Smith, J. VanderLaan, G. S. Williams.—19.

NEWAYGO COUNTY.—W. H. Barnum, G. G. Burns, Willis Geerlings, W. A. Kuhn, A. C. Tompsett.—5.

OAKLAND COUNTY.—L. A. Farnham.—1.

OCEANA COUNTY.—J. D. Buskirk, Clinton Day, G. F. Lamb, J. H. Nicholson.—4.

OTTAWA COUNTY.—T. A. Boot, A. J. Brown, D. G. Cook, H. J. Cherry, A. T. Godfrey, B. B. Godfrey, T. G. Huizenga, D. B. Lanting, A. Leenhouts, J. A. Mabbs, John Miersen, Seth Nibbelink, H. J. Poppen, H. A. Rigtierink, G. H. Thomas, J. W. Vandenbergh, Williams G. Winter.—17.

OSCEOLA COUNTY.—H. L. Fisher, A. Holm.—2.

SAGINAW COUNTY.—G. H. Ferguson, H. J. Meyer, C. A. McLandress, A. R. McKinney, J. W. McMeekin, T. C. Sample, C. H. Sample.—7.

SHIAWASSEE COUNTY.—J. J. Haviland, Arthur M. Hume, C. McCormick, Chas. B. Porter, S. C. Phippen, Jas. A. Rowley, W. E. Ward.—7.

ST. JOSEPH COUNTY.—W. A. Royer.—1.

ST. CLAIR COUNTY.—J. L. Chester, S. E. Conner, S. E. McGurse, Alex J. MacKenzie, C. B. Stockwell.—5.

TRI-COUNTY.—Oto L. Ricker.—1.

TUSCOLA COUNTY.—C. W. Clark, W. C. Garvin, T. W. Hammond, A. L. Seeley.—4.

VAN BUREN COUNTY.—C. L. Bennett, J. E. Hamilton, J. W. Hawkey, Grant Ide, N. D. Murphy, John McLean, F. C. Penoyar, T. H. Ransom, John D. Stewart, O. M. Vaughan, Jr., G. F. Young.—11.

WASHTENAW COUNTY.—A. M. Barrett, Wm. Blair, R. Bishop Canfield, C. G. Darling, C. George, Jr., B. H. Honeywell, T. Klingmann, H. J. Lillie, I. D. Lorce, M. Marshall, R. Peterson, Ward F. Seeley, Geo. Slocum, V. C. Vaughan, A. S. Warthin, C. L. Washburne, J. A. Wessinger, U. J. Wile.—18.

WAYNE COUNTY.—J. H. Andries, J. N. Bell, C. C. Benjamin, A. P. Biddle, J. H. Boulter, F. G. Buesser, G. A. Bulson, A. W. Blain, F. N. Blanchard, W. E. Blodgett, C. D. Brooks, D. M. Campbell, H. R. Carstens, J. H. Carstens, Wm. J. Cassidy, Ray Connor, Guy L. Connor, Jas. Cleland, James E. Davis, J. B. Dailey, Samuel J. Eder, W. A. Evans, H. R. Freund, G. W. Frothingham, J. E. Gleason, F. J. Grandfield, Louis J. Goux, E. W. Haass, H. J. Hartz, B. D. Harrison, L. W. Haynes, H. W. Heritt, Louis J. Hirschman, C. W. Hitch-

cock, P. M. Hickey, V. J. Hooper, B. P. Hoyt, R. C. Hull, A. A. Hughes, H. D. Jenks, Byron H. Jenne, A. F. Jennings, Geo. Kamperman, F. C. Kidner, Guy L. Kiefer, Chas. F. Kuhn, Wm. C. Lawrence, G. M. Livingston, E. G. Liebold, A. D. McAlpine, Grant McDonald, T. A. McGraw, Theo. A. McGraw, Geo. E. McKean, Angus McLean, J. A. MacMillan, F. J. W. Maguire, Walter Manton, J. D. Matthews, E. P. Mills, Stanley G. Miner, W. H. Morley, F. H. Newberry, Anna Odell, A. E. Patherwood, Walter R. Parker, R. Parmenter, Hebert M. Peck, Wm. H. Price, F. W. Robbin, Frank J. Sladen, Channing H. Stiles, B. R. Shurly, Frank Suggs, Geo. Suttie, Clarence E. Simpson, Wesley Taylor, Frank Burr Tibbals, H. N. Torrey, H. S. Ulbrich, V. C. Vaughan, F. Walter Vaughan, G. W. Wagner, Frank B. Walker, Leonard F. C. Wendt, W. J. Wilson, Jr., O. W. White, J. V. White, J. A. White.—89.

WEXFORD COUNTY.—R. J. E. Oden, Geo. A. Miller, B. H. McMullen, W. B. Wallace.—4.

OUT OF STATE.

A. R. Craig, Chicago, Ill.; Chas. H. Wolff, Philadelphia, Pa.; Howard Lindsay, St. Louis, Mo.; H. L. Chambers, Lawrence, Kansas; D. N. Eisendrath, Chicago, Ill.; Merrill Wells, Chicago, Ill.; J. H. Jacobson, Toledo, Ohio; F. H. Albee, New York, N. Y.; Clifford G. Grulee, Chicago, Ill.; C. L. Mix, Chicago, Ill.; C. W. Moots, Toledo, Ohio.

LIQUID PETROLATUM—THE IMPORTANCE OF SPECIFICATION.

There are many liquid petrolatums on the American market. Some of them are unfit for medicinal use. For internal administration liquid petrolatum should be free from deleterious substances—such, for example, as resinous oils, asphaltic compounds and unsaturated hydrocarbons. The average commercial petrolatum is liable to contain these impurities. It may also contain sulphur derivatives originating in the crude oil or in the chemical agents used in the refining process. Administered for any considerable period, these sulphur derivatives will cause irritation.

Fortunately, physicians need take no chances with petrolatums of doubtful quality. The specification "American Oil, P. D. & Co." will insure a highly refined, chemically pure liquid petrolatum. This product is guaranteed to be free from active or harmful substances. It meets all tests for identity and purity. It is colorless, odorless and tasteless. It is an oil of higher viscosity than most similar preparations on the American market, a fact worthy of consideration since it is conceded by medical authorities that the heavy oil having greater lubricating power, is the most efficacious therapeutically.

SOME COMMON MISTAKES IN THE INTERPRETATION OF LABORATORY REPORTS

There is a tendency to diagnose a nephritis *ipso facto* when the laboratory findings show the presence of albumin, and the severity of the condition is gaged by the percentage of albumin present. The object of this article is to emphasize the errors in these hasty conclusions.

It is necessary at the outset to exclude false or accidental albuminuria due to admixture of the albuminous exudate, blood or lymph through the urinary tract, by examination microscopically of the sediment and also by consideration of the clinical picture.

After a false or accidental albuminuria has been excluded, there are still the renal albuminurias without anatomic lesions of the kidneys which must be ruled out. These are classified by Saxe as: (1) functional albuminuria: (a) after severe muscular exertion, (b) after eating an excess of proteid food, (c) following nervous shock and other vasomotor changes, (d) during labor, (e) in nervous children; (2) essential albuminuria: (a) cyclic, (b) orthostatic or postural, (c) albuminuria minima (Leroche and Talamom) after infections or debilitating diseases; (3) traumatic albuminuria, slight injury to kidney, massage of kidney, movable kidney, injury to brain, apoplexy; (4) hematogenous albuminuria, such as severe anemia, purpura, scurvy, cholemia, diabetes, leukemia, severe wasting diseases and after anesthetics; (5) nervous albuminuria, insanity, mental depression, psychoses, paralysis of certain parts of brain, epilepsy, delirium tremens; (6) albuminuria of renal stasis in conditions of passive congestion; cardiac, pulmonary and hepatic diseases in the presence of mechanical pressure (stones, tumors) may occur with casts and usually a few red blood cells; (7) toxic albuminuria, irritants (cantharides turpentine), poisoning with arsenic, mercury, phosphorus, lead, antimony, alcohol, mineral acids, febrile diseases.

In many of these functional disturbances casts may be found.

Only when these are ruled out and when the urine shows albumin and casts repeatedly and there are clinical symptoms as well, can a positive diagnosis of nephritis be made.

The amount of albumin varies usually with the type of disease. In acute cases it is large in amount, becoming variable as it becomes chronic and small in amount in severe cases of contracted kidney. Exceptionally, however, the amount may be large when there is no kidney lesion at all, as in passive congestion, and on the other hand, albumin may be entirely absent at times in interstitial nephritis.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Arthur M. Hume, Chairman	Owosso.
A. P. Biddle	Detroit.
W. J. Kay	Lapeer.
W. J. DuBois	Grand Rapids.

EDITOR
FREDERICK C. WARNSHUIS
Grand Rapids, Mich.

All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscriptions are to be addressed to Frederick C. Warnshuis, M. D., 91 Monroe Ave., Grand Rapids, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

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October

Editorials

FIFTIETH ANNUAL MEETING.

The Fiftieth Annual Meeting held in Grand Rapids on September 1 and 2, with the Kent County Medical Society as hosts, is now recorded in our records and henceforth may be pointed and referred to as one of the meetings that reflects the high plane that has been attained by the organized profession of the state. We consign the recollections of the past to the reminiscent seat of our memories and face about to the future with the determination that our part in its history-making shall reflect the judgment, discretion and calibre of those who builded before us. It was well that we paused for a moment and indulged in reminiscences. We shall be the better able to solve the problems that await our solution.

Too much credit cannot be given to Drs. Walter Manton and B. A. Shepard, secretaries of the sections on Gynecology and Obstetric and General Medicine. They were indefatigable in their efforts in preparing their respective programs and gave unstintingly of their time in supervising the meetings of their sections. Drs. Blain and Haughey are equally entitled to credit. These four gentlemen were responsible for the excellent section work. All the sections were well attended; the essayists were rewarded by generous discussions. It will be difficult to find a state organization that presents a scientific program of greater merit or interest.

From the sentiments expressed by numerous members the first General Session was a most enjoyable occasion. President Peterson's Annual Address was interest absorbing. It reflected the expenditure of much time and effort in searching past records and their compilation was most interestingly wrought. The sentiments therein expressed, the noble tributes paid to the leaders of the past and the prophesy as to our future and the lines along which our future efforts should be directed all served to cause it to be a masterly effort. What might be termed his par-oration, consisting of the throwing upon the screen of pictures of the deceased past presidents, was met with frequent bursts of applause in tribute and in memory of those who had passed to the great beyond.

Seated upon the rostrum were two of the surviving founders of our society—Drs. Theodore A. McGraw and George E. Ranney. They reflected in their addresses and carriage their sterling characters and caused us to all appreciate their mental and physical calibre as well as to realize vividly the problems that confronted them in their early medical and organization labors. They were most deserving of the spontaneous ovation that was tendered them when President Peterson presented each of them with a large bouquet of American beauty roses in expression of the society's esteem and regard for them.

The House of Delegates dispatched its business expeditiously. Its determination to hold its first session in the future on the evening before the first General Session will enable them to thoroughly discuss the problems presented to that legislative body. The establishment of a new committee on Civic and Industrial Relationship was a timely and excellent initiative.

The return to office of the retiring Councilors, except one, was an endorsement of the work of the Council. Few realize the extent of the work that devolves upon a Councilor and the many hours of time that they are called upon to donate to the organization. They are fully entitled to be continued in office and we are indeed fortunate to be the recipients of their services.

Dr. A. P. Biddle, Councilor of the First District, declined re-election and Dr. Guy L. Kiefer was elected to succeed him in office. The efforts, the work, the inspiration, the wise council, the valuable suggestions and the ever willingness to serve at all times for the good of the Society by Dr. Biddle will ever be prominently

revealed in our organization's history. He is indeed deserving of much credit and we are loth to see him relinquish his official relationship. The assurance is, however, imparted that we may ever depend upon his loyal co-operation

of a nature that appealed to the varied inclinations of all their guests and admirably served to create a friendly feeling of universal brotherhood.

The reader is referred to another department



A. W. HORNBOKEN, M.D., PRESIDENT 1915-16

in the future. Our Society is deeply indebted to Dr. Biddle and will ever hold him in high esteem.

The Kent County Medical Society served as capable hosts. The entertainment provided was

of this issue which contains a full report of all the transactions. You who were not of the 618 registered attendants have willingly or possibly unwillingly foregone an occasion that was an epoch in our Society's history. The value

of these meetings are not so much what we learn from listening to the papers, addresses and discussions but consists in the inspiration that is instilled into one to return home resolved to attempt and achieve greater ends and to engage in his daily work with increased scientific zeal and conscientious determination. It serves to reveal our weaknesses and mistakes and causes us to resolve to prevent their future commission; it keeps us out of the rut and abreast of the times. It is as essential for a physician to attend his county, state and national meetings as it is to keep up daily reading of medical publications. To that end then do we urge that your interest in your county and state society be increased in order that the future may find the organized profession of Michigan in the vanguard of medical progress and achievements.

PRESIDENT HORNBOGEN.

Dr. A. W. Hornbogen of Marquette was unanimously elected President of the State Society for the ensuing year. President Hornbogen is 48 years of age, having been born in Reeds, Minnesota, October 31, 1866. He graduated from the college of Physicians and Surgeons, Chicago in 1889 and was the valedictorian of his class. He served an internship in Cook County Hospital from October, 1889 to April, 1891. In 1912 he spent six months in doing post-graduate work in Vienna and Berne. He is surgeon to the D.S.S. and A.R.R. and the Upper Peninsula Branch Prison and House of Correction.

In Medical Society work Dr. Hornbogen has always taken an active part. He is a member of the Marquette-Alger County Society, American Medical Association and Fellow of the American College of Surgeons. In 1909 he served as President of the Upper Peninsula Medical Society. He is a life member of the Vienna American Medical Association.

It may be confidently predicted that his administration will witness the continuance of the good work of the Society and that the close of the year will record a satisfactory advancement of all our undertakings.

ADVERTISERS.

Advertising no longer consists of a jumble of words and list of articles for sale. Advertising has become an art and has developed experts who devote hours of time in preparing copy and

conveying a message direct to the reader. Advertisements are silent salesmen that appeal to the possible new customer or consumer. As such they are paid a monthly salary in the form of a rate charged for the space they occupy in a given publication. The firms employing these silent salesmen expect that the money thus expended will bring them returns just as they expect their store salesmen to produce results in return for the salary they are paid. The salesman who doesn't sell goods is removed from the pay roll. The advertisement—silent salesman—that doesn't sell goods is likewise discontinued.

This is what we wish to impress upon our members and readers. The advertisements in each issue are absolutely necessary for our publication's financial welfare. Without them we cannot print the *Journal*. They are not donations. The advertiser expects they will bring him "sales" and business. If they don't, he is going to order their discharge.

We accept none but honest advertisements from honest dealers. Our readers may depend upon them. They are your patronizing friends and are deserving of your patronage. They offer you constantly articles that you use and consume in your daily work. They are entitled to your business. By perusing our advertising pages from month to month much information may be gained and bargains obtained in the supplies you need. Suggestions contained in some of these advertisements are bound to be of value to you. Every issue contains some message to every reader. To this end then, we are urging that you grasp these occasions for securing personal profits. By so doing you will enable your Publication Committee to continue these advertising contracts, secure additional ones and thus continue the standard of our publication.

Our readers are urged to increase their patronage of their friends—the advertisers.

COMMITTEES.

President Hornbogen's appointments on our standing committees will be found on the second page of the front advertising section of this issue. These committees are charged with the responsibility of performing the duties prescribed by our Constitution and By-Laws, or, the resolution that was passed creating them.

It is sincerely hoped that they will be active working bodies.

Editorial Comments

The recommendation adopted at our Annual Meeting to hold the first meeting of the House of Delegates on the evening preceding the morning on which the General Session convenes will enable that body to have more time at its disposal for the transaction of its business. The former custom of holding these two sessions on the same morning has always created more or less confusion and necessitated curtailment of the deliberations of both sessions.

The task confronting the Board of Health in conducting the state tuberculosis survey is a stupendous one. In the end the success of the survey is largely dependent upon the physicians of the state. To expect that the work can be accomplished chiefly with the aid of nurses would be folly. We regret that the leaders in the nursing world are of the opinion that they alone can accomplish the desired end. The sooner this idea is abandoned the sooner will a satisfactory plan be evolved. We trust the Board of Health will not place its dependence entirely upon nurse assistants.

The reports of our health departments reveal the increasing death rate of cancer. The time is here when more active and determined effort must be exhibited to disseminate knowledge among the public regarding cancer and its prevention. It is sincerely hoped that our Committee on Civic and Industrial Relations will early assume a careful study of the situation and institute a vigorous state wide campaign.

The Fee Schedule adopted two years ago by our House of Delegates has been revoked and the new one recommended was rejected. There no longer exists a fee bill as a basis for charging for services rendered under our compensation laws. While naturally there exists two views as to the advisability or not of a fee schedule approved by the state society we are of the opinion that our expression of disapproval of the predetermined schedule will have a baneful retroactive result. The Compensation Board and the Insurance Companies will undoubtedly form a schedule of their own that will be far less remunerative than the one proposed for adoption. Argue as one may that he will not abide by the prices fixed by these outside parties we are disposed to believe that all such antagonism will eventually result in acceptance of the fees determined upon by these

two parties. It will be costly and difficult to collect fees charged by individual initiative. Much bickering is bound to result and payment of bills for services will result in compromises and long delayed settlement.

Our next meeting is eleven months distant. However, we would like to receive expressions from our members as to when they desire it to be held—August or September? How shall the journey be made to Houghton—by rail or boat? One thing is certain and that is that the profession of the upper peninsula is determined to perfect every detail and provide conveniences and entertainment that will measure up to their recognized hospitality and scientific enthusiasm.

Limited revenue limits by necessity the size of each issue of the *Journal*. We would that it were possible to serve as a medium for the publication of all the writings for our state profession. This, at present, is impossible. The Publication Committee must therefore accept only those contributions that are of interest to the greater number of readers and that reveal the progress of our attainments. Abstracts of all special society meetings are welcomed for our society news pages but it is entirely out of the question to publish in full all the papers that are read at their meetings. To do so would make the cost of the *Journal* exceed its receipts and bankruptcy would rapidly ensue.

A few there are who resent our present method of electing Councilors. Councilors are state and not district officers. They administer the affairs of the State Society not for their district but for the entire state. To cause their selection by the societies composing prescribed districts would be unjust and contrary to the fundamental plans of our organization. Councilors are nominated by the Nominating Committee of the House of Delegates. The nominees are elected by the delegates who are selected by local county societies. The Nominating Committee is not appointed but is elected by the House of Delegates. The entire procedure is consistently democratic and representative. Our faith in the integrity of the Nominating Committee is absolute. If objections worthy of consideration and substantiated are registered with this Nominating Committee we do not believe that such a committee would nominate and recommend the election of such a protested candidate or nominee. To declare that politics

is played is unfounded and unwarranted. The past has justified the procedure in vogue and proven its merit by reason of the constructive work enacted by the Council. Personal disappointment should not beget a mumbling whine.

The reason and whyfore of our present plan of medical organization no longer requires discussion or debate. Its existence is justified; its objects are wholly meritorious. This is now universally conceded. What concerns us most is how we may individually and collectively secure the greatest good from our organization and how we may cause it to yield unto all the fullest amount of intellectual and social dividends.

It must become recognized that the energy contributed to and revealed in the county society is the avenue from which our dividends must be expected. The County Society is charged with this responsibility and the degree in which it assumes this charge will determine its status in the circle of organization.

The responsibility is a trust that rests upon the individual member of each county unit. It is they who in the final analysis determine their ability to receive this trust and to reveal their worthiness or unworthiness of this confidence by causing their county society to become an active, thriving organization or one just the contrary. Your individual loyalty to your society is revealed in the energy you personally expend in its service. It is yours if you choose to reap large dividends of extreme value or none at all.

Deaths

Dr. John Hayes Richardson passed away on Aug. 16 at his home in Niles, Michigan where he has resided for fifty-nine years. He was one of the oldest and most highly esteemed citizens of that city.

Dr. C. F. McDonald, of Goodrich, died Aug. 29.

State News Notes

Dr. J. E. Davis of Detroit has recently completed work for the A.M. degree at the University of Michigan and has been recommended by the faculty for graduation. Dr. Davis was elected a Fellow of the American Association of Obstetricians and Gynecologists at Pittsburg, Pa. in September, 1915.

Dr. L. J. Hirschman of Detroit has been appointed Chairman of the Committee on Arrangements for the 1916 meeting of the American Medical Association that is to convene in that city coming June. A

large amount of the success of the meeting depends upon the activity of Dr. Hirschman.

The lantern slides of deceased ex-presidents, that were used by Dr. Peterson in illustration of his Presidential address have been presented to the Society and are now being preserved with our official records.

Dr. Guy L. Connor of Detroit has been appointed by the Board of Education to examine all teachers applying for positions and teachers already employed when there is a hint of illness which might affect their teaching qualifications or endanger the health of their pupils.

Dr. A. L. Lawbaugh, Chief Surgeon of the Calumet and Hecla Mining Co. at Calumet, informs us that there exists an opening for an internship in the Tamarack Mine Hospital. Application should be made direct to Dr. Lawbaugh.

The weekly Bulletin of the Wayne County Medical Society appears in its initial number of Vol. VII in new dress and style. Its value has thus been enhanced and so becomes of more value to its members.

Dr. V. C. Vaughan, Sr., is editor of the new publication—"American Journal of Laboratory and Clinical Medicine" published by C. V. Mosby Co. The first issue will appear about October 1.

Two new units as an addition to the Saginaw Tuberculosis Sanatorium to accommodate twelve additional patients are practically completed and will be ready for occupancy about October 1.

Dr. A. F. Fischer of Hancock was re-elected President of the State Anti-Tuberculosis Society at its annual meeting held in Grand Rapids, September 2 and 3.

Dr. L. T. O'Brien of Elkhart, Ind., having completed his internship at Harper Hospital, has become associated with Dr. F. C. Warnshuis of Grand Rapids.

The Clinical Congress of Surgeons convenes in Boston the week of October 25. Clinics will be held in all the Boston Hospitals.

Dr. Garner M. Byington and Miss Bertha Mae Long of Charlotte were married September 1.

Dr. S. G. McDonald of Detroit is pursuing post-graduate work in the Children's Hospital of New York.

The Michigan Board of Registration in Medicine will hold its annual meeting in Lansing October 12-14.

Dr. T. J. Carney of Durand has located in Alma.

Dr. D. C. Adams has located in Hastings.

The Bay City Hospital is planning a \$25,000 addition.

Dr. John T. Sample has been elected President of the Saginaw Anti-Tuberculosis Society.

Drs. E. E. Curtis and Arthur Grigg of Saginaw are in New York for a month's attendance at Clinics.

Dr. W. F. English has been re-elected President of the Saginaw Board of Education.

County Society News

To County Society Officers:

With the resumption of county meetings, following the summer's recess, the County Secretaries are urged to send a report of all their meetings for publication and record.

The last forms of *The Journal* are closed on the 20th of each month. May we not have your assistance in making this department of *The Journal* representative of the activities of our component units?

CALHOUN COUNTY

The seventh regular meeting of the Calhoun County Medical Society for 1915 convened on Tuesday evening, September 7, at eight o'clock, in the Commission Room of the City Hall, Battle Creek.

PROGRAM.

"The Diagnosis of Extra-Uterine Pregnancy."

Dr. Leslie H. S. De Witt, Kalamazoo.

Discussion by Drs. G. C. Hafford, Albion, Mich.; Mary V. Dryden, Battle Creek, Mich.

"Injuries to the Pelvic Floor: When and How to Repair Them." Lantern Slide Demonstration.

Dr. Channing W. Barrett,

Professor of Gynecology, University of Chicago.

Discussion by Drs. R. H. Harris, Battle Creek, Mich.; J. L. Ramsdell, Albion, Mich.

DR. CARLING'S OBITUARY.

William Monroe Carling was born in Trenton, New Jersey, August 25, 1872, and died in Battle Creek, May 30, 1915.

Dr. Carling was well prepared for his profession, having graduated from Trenton High School, finished Preparatory College and graduated from Princeton University.

He received his Medical Degree in 1897 at the Medico-Chirurgical College in Philadelphia, and continued with one year in New York Post Graduate School.

He located in Denver, Colorado, where he was Assistant Ophthalmologist in the Denver University Clinic from 1905 to 1909. During this time he married Miss Eva Morley of Battle Creek, and in 1911 they moved to this city where Dr. Carling built up an extensive practice in his chosen specialty.

He was an active member in our Society, always ready and willing to serve in any capacity. At the time of his death he was one of our Delegates Elect to the State Medical Society. He was also a member of the South Western Michigan Trio-Logistical Society.

Although his death was so sudden as to be tragi-

cal, he was undoubtedly a sacrifice to the exigencies of our profession. While operating, some weeks previous, he became infected, and developed a septicemia. This he fought bravely and energetically, and just when he seemed to have almost conquered, he was suddenly stricken, death resulting from Endarteritis, which was undoubtedly a result of the infection.

We shall miss him from our meetings and will be ever reminded, by his untimely death, of the dangers we daily meet, and from which we habitually escape.

ITEMS OF INTEREST.

By the death of Dr. Carling there occurred a vacancy in our list of Delegates to the State Society and as there was no meeting previous to the meeting of the State Society, the president appointed Dr. Jesse J. Holes to fill the vacancy.

Dr. R. M. Gubbins of Battle Creek, was operated for Biliary Calculi, at the Sanitarium Hospital, early in August and is convalescing very satisfactorily. At the same time he is able to spend a few hours each day in his office.

The School Board of this city of Battle Creek has decided to submit to the Electors the question of Medical and Dental Inspection of the school children. This movement has already met with approval in many of our leading cities and must eventually be adopted here. Last year our Society offered to assist in this movement, but the Board lacked the courage to accept our proposition. Let us hope our city is now ready for this step in advance.

A. F. KINGSLEY, Secretary.

GRAND TRAVERSE-LEELANAU COUNTY

The regular meeting of the Grand Traverse-Leelanau County Medical Society was held on Tuesday evening, Sept. 14, at the Traverse City State Hospital. Dr. E. B. Minor, of Traverse City, delegate to the convention of the State Medical Society at Grand Rapids, submitted a report.

Dr. J. D. Munson, Superintendent of the Traverse City State Hospital, read a paper entitled "General Hospital." The paper covered the rules and regulations of the General Hospital Department of the State Hospital, which was instituted in June, and the benefits derived by the community, the practicing physicians in the region, and the profession at large, were pointed out. The hospital has fifteen beds, and has been practically filled since its inception, and the institution is being conducted without expense to the State.

The reading of the paper was followed by a phychopathic clinic which was conducted by Drs. A. S. Rowley, W. D. Mueller and H. V. Hendricks.

After the meeting a dainty lucheon was served, at which Mrs. Munson acted as hostess, assisted by Miss Alma Cron.

W. D. MUELLER, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

The annual summer picnic and the first meeting of September of the Kalamazoo Academy of Medicine were held on August 27 and September 14 re-

spectively. The abstracts that follow contain important points brought out at both meetings. The complete paper of Dr. Goldstine's will appear later in the *Journal*.

Brief of Address on "School Hygiene."

E. H. Drake, Kalamazoo.

The past ten or fifteen years have brought about a great awakening to the importance of preserving health and preventing disease—the medical profession and others concerned in bringing this desired condition to pass have been confronted by great problems: how to arouse the public to the importance of preventing disease and conserving health; how secure and enforce proper health laws; the necessity of educating the public before the best health laws can be secured for the people and the schools. Their labors have met with a certain degree of success; witness the changed attitude toward disease. The former popular belief in the necessity and hopelessness of disease has changed as a result of scientific investigation. The new attitude places emphasis upon prevention of disease and the promotion of health. The physician leads today in giving knowledge of disease, the means of prevention and teaches that a sound body is the best defense against disease. To bring about a more satisfactory condition it is necessary that instruction begin early. Hence the importance of public school instruction in hygiene and sanitation. School hygiene thus becomes race hygiene. The opportunity of the school for the promotion of health is great. Medical inspectional work in many systems has become detectional, correctional, preventive and educative and concerns itself with physical defects including those of teeth, eye, ear, nose and throat, as well as with disease, and includes the school nurse and follow-up work. In some cases it adjusts school activities to growing needs and directs the hygiene of growth and instruction. It should concern itself with the study of retardation, cause and remedy and examine into sanitary conditions, sanitary school house conditions and equipment. Medical Inspection has revealed an astounding number of pupils with removable defects as adenoids, enlarged tonsils, decayed teeth, anemia, malnutrition, etc. the removal of which removes also the resulting functional derangements and opens the way to progress of many a seemingly backward child.

The school has further opportunity for the promotion of health through proper consideration of building hygiene, janitor service, open air schools, oral hygiene, conservation of vision, school feeding, nutrition of school children, the phychoeducational clinic, athletics, recreation, playgrounds, sanitary control (ventilation, heating, lighting, adjustment of desks, drinking and toilet arrangements, cleaning of buildings), means of correcting faulty conditions, exclusion for contagious diseases, sanitary surveys, condemnation of insanitary buildings and proper health instruction.

A program of health instruction or child hygiene should include the home where parents too generally are unaware of the necessity to study and practice child hygiene in bringing up children. Children who have inherited a fairly sound physique should be taught that health depends upon two main factors;

their environment and their habits. The necessary elements of environment are few but most important; shelter, air, food, clothing, play space, joy, affection, hope. Necessary habits are simple and include cleanliness, elimination of waste, mastication of food, work, play, exercise and rest, all in proper degree. These elements of environment and habits should be presented in all their bearings. Air, for example, should be presented as the most vital of physical necessities and a fresh air regime necessary for health should be taught and established. Habits that promote community health should be thoroughly treated; practices that prevent the scattering of unclean matter and disease germs.

A forecast of more desirable conditions.

Abstract of Paper on "Treatment of Puerperal Infection."

Dr. Mark T. Goldstine, Chicago, Ill.

We know that puerperal sepsis is a wound infection and is due to the carrying in of micro-organisms by the doctor, nurse and sometimes the husband of the patient or the patient itself by taking douches immediately before the onset of labor. Consequently vaginal examinations should be restricted as much as possible. From the investigations of Kronig, Leopold, Williams and from many of my own observations I am convinced that the normal vaginal secretions are sterile.

The treatment as carried out now in the gynecological service of Wesley Hospital is as follows, with of course, such special measures as a few of the cases would require. At present the fundamental principle in the cure of the above disease is the establishing of an immunity within the patient to the infection by building up the patient's physiological resistance to a point when it conquers the infections.

These patients should be under the best possible hygienic surroundings and in view of this fact, we prefer the hospital to any other place. As soon as the patient enters the hospital she is given a bed where air and sunlight can be had in plenty and the following is the routine treatment that is given.

1. The head of the bed is raised to a comfortable degree. This favors drainage.
2. An ice bag is placed on the abdomen in all cases and one on the head if the temperature is fairly high. They relieve pain to a marked degree, quiet the patient and reduce the temperature to some extent.
3. A large amount of nutritious and easily digested food is given as quickly as the stomach will tolerate it.
4. Liquids are forced on the patient and at least two quarts must be taken daily, and as much more as the patient desires. This helps elimination and keeps up the patient's strength. Salines are given as the case requires but not continuous, as it disturbs the patient too much and good results are obtained by giving an amount which will be retained at periods from three to six hours apart.
5. The patients are taken out-doors when possible and sun baths are given frequently.
6. Blood, urine, etc. are analyzed.

7. Pain is relieved from six to eight hours so sleep is obtained daily.

The uterus and vaginal canal are not disturbed unless there is considerable bleeding. Should parts of the fetus, placenta or ovum be retained there is no necessity of their removal as a septic uterus will in good time empty itself much to the patient's and attending physician's advantage. This I have proven clinically time and time again. Removal of debris cannot be accomplished without more or less traumatism. In this way new avenues for the entrance of infection are opened and in a great many instances a mixed infection is turned into a very virulent infection and a virulent infection is greatly increased. Granting that the streptococcus is the worst form of infection and should be left alone because the patients have a better chance of recovery under that regime of treatment, then why should we curette, douche, etc. the milder infections? What is good treatment for the worst class is surely good for the milder ones; and furthermore there are some streptococci in almost every lochia examined. We will come to this a little later in our case reports.

LENAWEE COUNTY

The Lenawee County Medical Society met in the public library at Adrian on Tuesday the 17th. There was a general discussion of interesting cases and one of especial interest was a man with a dislocation of the first cervical. There is no paralysis of any part though the displacement is very marked. The injury occurred on the seventeenth of last October and the man is still able to be about.

W. S. MACKENZIE, Secretary.

WAYNE COUNTY

OFFICERS AND COMMITTEES FOR 1915-1916

- President—Dr. F. B. Walker.
- Vice-President—Dr. Harold Wilson.
- Secretary—Dr. C. E. Simpson.
- Treasurer—Dr. F. B. Tibbals.
- Trustees—Drs. A. D. Holmes, J. N. Bell, W. L. Babcock, L. J. Hirschman, Angus McLean.
- Chairman Surg. Sect.—Dr. E. K. Cullen.
- Secy. Surg. Sect.—Dr. C. L. Candler.
- Chairman Med. Sect.—Dr. W. J. Wilson, Jr.
- Secy. Med. Sect.—Dr. H. R. Carstens.
- Club House Committee—Drs. W. H. Morley, R. S. Rowland, Geo. Riberdy, A. E. Catherwood, E. C. Lee.
- Library Committee—Drs. Richard E. Mercer, Chairman; John N. E. Brown, Frank L. Newman, Robert C. Jamieson, Benjamin R. Schenck.
- Program Committee—Dr. James H. Dempster, Chairman.
- Editor—The Bulletin—Dr. Wesley Taylor.
- Business Manager—The Bulletin—Dr. Arthur R. Moon.
- Entertainment Committee—Drs. George C. Chene, Chairman; Charles L. Chambers, Frank T. F. Stephenson, J. Everitt King, Edward W. Mooney.
- Committee on Public Health—Drs. Theodore A. McGraw, Jr., Chairman; Guy L. Connor, Frank B. Tibbals.
- Nurses' Committee—Drs. William H. Rieman, Isaac Polozker, Augustus W. Ives, Chairman;

William J. Seymour, George H. Palmerlee, William J. Cassidy, George W. Wagner.

Necrology Committee—Drs. Delos L. Parker, Chairman; William R. Chittick, Martin V. Meddaugh.

Opening Meeting—September 20, 1915, 8 P. M.

President's Address, Dr. Don M. Campbell.

Reading of Reports.

General Business.

Buffet Luncheon served after the meeting.

Meeting September 27, 1915.

Lung Abscesses (Illustrated), Dr. Max Ballin.

Discussion by Drs. C. G. Jennings, E. W. Haas, Angus McLean, A. D. McAlpin, V. C. Vaughan, Jr.

Our little Bulletin we hope will keep the various members in touch with the transactions of the Wayne County Medical Society.

Its aim is to furnish the programs for two weeks in advance and place them before the members by the Saturday preceding, at the latest. This will enable members to make their plans for attendance if they so desire, before they have completed conflicting appointments. Any resolutions adopted by the Society likewise appear therein, as well as communications to the Society, and notices or other Society business, and the names of prospective members. It is our desire to publish abstracts of all papers presented before the Society. It is unlikely that we will have the space to publish paper entire, excepting in exceptional cases, though we would be glad if it could be done.

To have full value these abstracts should appear in the issue immediately following their presentation. To do this the author must co-operate promptly with the editor of the Bulletin and should furnish his copy within the next couple of days at the least. Otherwise it will be impossible to get the material to press in time for it to appear in the succeeding issue.

We are willing to assist the author in any possible manner. We will gladly send for the abstract, or for the paper itself and make an abstract ourselves, if given sufficient time. Especially can this be done if a copy of the paper is furnished us in advance of its delivery. We shall expect, however, to get the papers or the abstract the same evening it is read.

Any other material furnished by members will be very gladly received. We will, however, publish articles only when signed by the author or the person responsible for them. This stand is taken because the Bulletin represents the Society and the Society is expected to stand sponsor for all unsigned articles.

In order therefore not to do injustice to the Society or to any one furnishing us material, we will publish signed communications only. The name of the author, however, will not be appended to small news items or to gossip furnished for the Personal Column, which we hope to run.

Any suggestions or help from our members will always be welcomed.

Book Reviews

THE PRINCIPLES OF HUMAN PHYSIOLOGY. New (2nd) edition, by Ernest H. Starling, M.D., F.R.C.P., F.R.S., Jodrell Professor of Physiology in University College, London. Octavo, 1271 pages with 566 illustrations, including 10 in colors. Cloth, \$5.00, net. Lea & Febiger, Publishers, New York and Philadelphia. 1915.

The book is a comprehensive and engaging presentation of the principles and essential data of the physio-chemical mechanism of the human body. The aim of the work throughout is to supply the medical student and practitioner with a working knowledge of physiology.

Those who are familiar with the first edition of the book will welcome the modern product from the facile and non-technical pen of this writer who has so thoroughly mastered the art of description and exposition. Its pages breathe enthusiasm. There is no tedious enumeration of non-essential detail, yet it is thoroughly scientific in its treatment of the various problems of physiological investigation and in the arrangement of its subject matter. The illustrations and tracings are aptly chosen. Those dealing with muscular phenomena are especially instructive and up to date.

Possibly there is a lack of balance in the space devoted to the chapters on muscle physiology but this is due in part, to the trend that research has taken and it is pleasing to note that the author has taken full advantage of recent work in histology. Nevertheless, one is inclined to wish that Dr. Starling had developed more fully his chapters on the ductless glands and the nervous system.

New chapters have been added dealing with the nutrition of the brain and with the innervation of the bronchi.

We heartily recommend the book as a text to all those who wish a thorough and interesting compilation of the past achievements in physiology.


PRACTICAL MATERIA MEDICA AND PRESCRIPTION WRITING. Oscar W. Bethea, M.D., Ph.G.; F.C.S. Asst. Professor Materia Medica, Tulane University. Cloth 549 pps. illustrated. Price \$4.00. F. A. Davis Co. Publishers, Philadelphia.

The volume is assured to be of exceptional value to the practitioner if he will but devote the time to the application of the principles therein imparted. It will enable him to use his remedies with greater precision and secure definite results. He will become a more scientific prescriber. This work far exceeds the majority of such text books and really becomes a necessity for every physician to have. It is recommended most favorably because it is a work of scientific and practical value.

ESSENTIALS OF LABORATORY DIAGNOSIS: Designed for Students and Practitioners. Francis Ashley Faught, M.D. Director of Laboratory Department Clinical Medicine—Medico-Chirurgical College. 450 pps; 10 full page Plates and 58 Engravings. Fifth Revised Edition. F. A. Davis Co. Philadelphia.

This manual contains all the necessary working outlines of clinical laboratory methods and thus becomes an ideal manual for the busy practitioner. It imparts simple and reliable methods presented in a concise, clear manner.

With such a guide the practitioner is enabled to make a detailed analysis and arrive at dependable conclusions. It thus becomes a valuable manual that is heartily recommended.



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Original Articles

SPASMOPHILIC CONVULSIONS IN INFANCY: THEIR DIFFERENTIATION AND TREATMENT.

CLIFFORD G. GRULEE, M.D.
CHICAGO, ILL.

There is perhaps no condition affecting the infant which is so alarming to the parents and frequently to the physician as is convulsions. In spite of this fact in the practice of medicine the serious nature of convulsions has largely been lost sight of. Most physicians find themselves well comforted with the idea that the vast majority of these cases recover, either because of or in spite of treatment. Such a view is certainly not a safe one to hold, and the conditions underlying convulsions are frequently very grave and need most intelligent differentiation and treatment. It is for this reason that I wish to present to you some ideas on that commonest of all forms of convulsions—spasmophilia.

The term spasmophilia is a broad one, and one not much used in American nomenclature. In this instance it is impossible to choose a common English term to cover a most common condition, and for this reason I have chosen the one used by the German pediatricians.

The spasmophilic convulsion has several most interesting characteristics which make it as a rule, easy to differentiate from other forms. The convulsions themselves are nearly always general in type, though it is not at all uncommon to find convulsions affecting only half the body or perhaps starting out very much in the manner of those of a Jacksonian epilepsy, one extremity being affected and the condition gradually extending over the whole body. The convulsions usually begin as clonic spasms, passing in a very short time into a tonic state and then to a short period of relaxation with unconsciousness. The child for a short time thereafter

remains somewhat dazed, but soon regains its normal mental state, and remains in this condition until the beginning of the next convulsion. Very characteristic of convulsions of the spasmophilic type is that they are frequently repeated within a short interval of time. It is not usual to have convulsions of this type occur singly. More often four or five will occur in the course of the first eight or ten hours, and I have seen as many as seventy in twenty-four hours. The condition is often preceded by more or less laryngeal stridor, which is evidenced by a peculiar crow. This type of convulsion, like other types of convulsion, should be regarded as a symptom, and not a disease. It is a part of a general tendency to spasmodic contractions which frequently are localized in character, as for instance, laryngismus stridulus, tetany, rotary head spasm, and so forth. These conditions not infrequently are present at the time the convulsions occur, and together with spasmophilic convulsions are characterized by an increased electrical irritability. The test for the electrical irritability is made with a galvanic current, the usual technic being as follows: The anode well saturated with normal salt solution is placed over the abdomen, and the cathode over the median nerve just above the inside of the elbow joint. Make and break contractions are recorded and the amount of the current necessary to produce them is read off on the milliamperimeter. It should require under normal conditions more than five milliamperes of current to produce a break contraction. The slightest twitching of the index finger is sufficient. By means of this reaction one is not only able to detect whether a state of spasmophilia exists, but may even very carefully gauge the progress of the case under treatment. In order to apply this test, one must be very careful that the galvanic current is in no way interrupted. In other words, that there is no element of faradic current present.

Spasmophilic convulsions have to be differentiated from at least five forms of convulsions

which occur in infancy. The first of these—*terminal* convulsions—which are found quite frequently just before death in marantic infants offer very little trouble and as a consequence will only be mentioned.

The *symptomatic* type of convulsions which occurs so frequently in acute febrile conditions in infancy is very hard indeed to differentiate unless one is able to apply the electrical reaction test. As a rule, however, these convulsions occur only at the onset of an acute febrile attack and are rarely repeated more than once. In this they differ materially from most cases of spasmophilia. The distinction, however, is not sufficient so that one may arrive at a definite conclusion in a given case.

Uremic convulsions are practically unknown in infancy, except in the acute nephritis following scarlet fever. This is not common at this age, and the disease which precedes these convulsions gives a clue as to their origin. Examination of the urine will in most cases remove all doubt. It is possible, however, to have spasmophilia combined with this condition, in which case one may be at a loss to determine which of the two conditions is to be regarded as causative.

Meningitis, especially of the acute variety, and intracranial tumors, idiocy with or without brain defect, hydrocephalus, and in fact, in most cases where intracranial pathology is present, convulsions are of frequent occurrence. They are rarely, however, of the spasmophilic type and practically are never accompanied by an increased electrical irritability. In the newborn we not infrequently meet with convulsions in cases of intracranial hemorrhage, but since spasmophilia rarely or never occurs at this age, it is very easy to rule it out.

There has been for some time much controversy as to the relation of spasmophilia to epilepsy. This has been due probably to two causes. First: It is not at all unlikely that the seizures of convulsions of the spasmophilic type may be at times accompanied by intracranial hemorrhage from which epileptic seizures may develop. It is more likely, however, that in the history of epilepsy we have not gone sufficiently into detail as to the character of the convulsions and have assumed that any convulsions in infancy which preceded an epilepsy of later life were essentially of an etiologic significance. There are two possibilities here. One is that a spasmophilia in early life is not in any way connected etiologically with a later developing epilepsy. The second is that the

convulsions in early life were essentially epileptic in nature and not spasmophilic. There are certain things which are characteristic of epilepsy in infancy and childhood which may be of value in determining the nature of a given convulsion. In the first place, it should be stated that no convulsions in infancy are of significance because of the distribution of the convulsive seizures. This is true whether they be epileptic, symptomatic, or spasmophilic. Characteristic of the epileptic convulsion is that it rarely begins earlier than the first year, that nearly always it is single, and that the interval between convulsions tends to become less as the child increases in age. In the spasmophilic type of convulsions nearly all occur early in life, by far the greatest majority within the first two years, and they are very common in the first year of life. The interval between convulsions is not at all regular, nor does it show any tendency to occur at certain times, except that it is materially influenced by the time of year, occurring most frequently in the late winter or early spring. The increased electrical irritability is not a symptom of epileptic, as it is of spasmophilic convulsions. You will see by this that I take the stand that the two conditions are to be differentiated, and that except in rare instances of which we have very little proof, the spasmophilic and epileptic convulsions are distinct clinical entities, and should be recognized and treated as such.

Before taking up the question of treatment of this type of convulsion, it would be well to clear up to some extent the question of its etiology. This condition has so frequently been encountered during the existence of gastro-intestinal disturbances, such as diarrhea and constipation that by many even yet the ordinary convulsions in infancy are regarded as a symptom of gastro-intestinal disturbance. While gastro-intestinal disturbance may play a large part as the immediate cause of the convulsive attack, they are probably only in a small degree to blame for the underlying condition which makes convulsions possible. Many of these children live in poor hygienic surroundings, and perhaps a larger proportion show more or less respiratory obstruction, especially adenoids and large tonsils. In nearly every instance rickets in a greater or less degree is present, and there seems to be some distinct underlying cause of the two conditions. The state of spasmophilia has in the main been attributed to one or both of two disturbances: First, the claim that the condition is due to a lesion of the parathyroid

gland. That this is not true in all cases has been proven by the fact that in many cases dying of spasms distinctly spasmophilic in type, there have been found no lesions whatever in the parathyroid glands. That the condition of the parathyroids may be chemically and not anatomically deranged is a possibility. It has been shown beyond question that in cases of spasmophilia there is a decreased calcium content of the brain. That there is a distinct connection between the disturbance of the parathyroid secretion and calcium metabolism has been definitely determined. The removal of parathyroids is followed by distinct increase of calcium excretion. Between the disturbance of calcium metabolism and rickets on the one hand and spasmophilia on the other, there is evidently some very intimate connection. It would seem reasonable to think that there is also an intimate relation between these two conditions and poor hygienic surroundings and respiratory defects when we learn that these latter are accompanied by a decreased oxygen intake and carbon dioxide excretion from the lungs, and that an excess of carbon dioxide in the blood gives us a fluid which will dissolve more calcium than will the normal blood serum. With this brief review of the etiology underlying this type of convulsion we may turn to the treatment with a better idea of what will specifically influence this condition.

Except in hospital practice it is not frequent that one can reach a child before the termination of the convulsive seizure. While the attendants of the infant feel it necessary to do something at once, it is altogether likely that in most instances any treatment during the convulsions will be of no avail. In fact, I know of but one condition where treatment during the convulsions may be efficacious. In the apneic convulsion with severe tonic contraction of the diaphragm, it is sometimes possible to stimulate respiration during this tonic spasm by dipping the child from hot to cold water and back. This repeated over a long period has seemed to me in a few cases to be effective. It is possible, however, that I have exaggerated the importance of this procedure. The efforts during the convulsive seizure should be directed only towards keeping the child from injuring itself. As a rule, this is not a difficult thing to accomplish. Immediately following the convulsion, especially if there are indications of a repetition, it is necessary to apply sedatives. The sedative to be chosen will depend a great deal upon the frequency and severity of the

convulsions. In the most severe forms early in the treatment it may be necessary to use chloroform. This should be supplemented immediately however, with a small dose of morphine, 1/50-1/100 grain, hypodermatically, and this in turn should be followed almost immediately by the introduction rectally of two to five grains of chloral hydrate in one to two ounces of water. This may be done very readily with a one-piece rubber ear syringe with the capacity of one ounce. The buttocks should be held together a few minutes after the injection to insure retention of the fluid. In most instances it is necessary to repeat the chloral hydrate at intervals of four hours the first twenty-four to forty-eight hours, gradually increasing the interval between doses until the chloral hydrate is left out altogether. The dose of chloral hydrate which I would advise is one to two grains.

These measures having been used to control the convulsion, it is wise to treat them in such a manner that sedatives can be dispensed with. For this purpose calcium would seem to be indicated, if we may look to the solution of the problem from etiology. Calcium lactate, 10 to 15 grains every two hours is well borne by these infants, and will produce very effective results, as may be tested by means of the electrical irritability. One may use also subcutaneously 4-10 cc. of 8 per cent. solution of anhydrous magnesium sulphate. This latter may be repeated each day for two or three days. The use of calcium lactate in such quantities is justified by its specific effect, and it is quite remarkable how quickly the electrical irritability may be reduced to normal in many cases.

Next to the specific treatment comes the dietetic. It has long been known that a pure carbohydrate diet, provided it produces no gastro-intestinal disturbance, is of benefit in cases of spasmophilia, but of course it is impossible to keep a child for any length of time upon a pure carbohydrate diet. Sometime since, I was able to demonstrate that the whey of milk was the irritating portion, and that removal of the whey from the milk was of distinct advantage in feeding these infants. Since my first experience with this dietetic measure, I have had many cases to confirm its usefulness. It must not be thought, however, that a child can be indefinitely kept upon a carbohydrate mixture, to which has been added the curds of milk. The whey must be added gradually in the course of three or four days, and the child is then given a whole milk formula. Cod liver oil and phosphorus act in this condition in much the same

way as they do in rickets, by increasing the calcium retention and hence reducing the spasmophilic tendency. A good mixture to be used is .01 gram of phosphorus to 100 cc. of cod liver oil. This should be given in doses of one-half to one teaspoonful three times a day, and continued over weeks and months. One should be careful in giving cod liver oil that the quantity given be reckoned with in estimating the total amount of food. If this is not done one is very likely to produce a dyspepsia from the over-feeding.

Aside from the measures mentioned, there is very little of a medicinal nature to be done for these cases. Perhaps an initial cathartic may be of value. In my hands, such drugs as the bromides and like mild sedatives have been absolutely useless, and I would strongly advise that no time be lost with such procedures. One should not forget that poor hygienic surroundings constitute one of the etiologic factors of this condition, and fresh air and cleanliness are of great value in the treatment of these convulsions. As a preventive measure, one might also mention the removal of all obstructions to respiration.

In treatment of spasmophilia there are certain pit-falls to be avoided. One is to remember that any slight stimulus to the child such as sudden chill, sudden sharp noise, and so forth, may be an immediate cause of convulsive seizure. Even bright light is to be avoided. A peculiar condition, which so far as I know has not been previously mentioned, but which was brought rather forcibly to my notice not long ago is the fact that alkalies increase the electrical irritability, and hence the tendency to convulsions. This is of importance, especially in two conditions. In the first place, we have recently seen that in many cases of acute infection of the naso-pharynx, alkalies are of distinct advantage. The other condition is pyelocystitis so frequently found in young infants and which perhaps is best treated, at least in its initial stages, by means of alkaline therapy. The frequency of slight degrees of acidosis in infants renders it advisable in many instances to give alkaline water and various powders containing sodium and potassium compounds. Such therapy should be carefully guarded against in cases of a spasmophilic nature.

CONCLUSIONS.

1. Spasmophilic convulsions constitute a distinct type of convulsions, and should be care-

fully differentiated from other forms of convulsions occurring in infants.

2. There is no evidence at hand which goes to show that the epileptic convulsion is or can be derived from a spasmophilia which produces no pathologic lesions in the brain.

3. The initial treatment of convulsions consists in the use of sedatives.

4. Specific treatment consists in the use of calcium and magnesium compounds which are very effective in reducing the electrical irritability.

5. The regulation of the diet is of distinct advantage. In the early stages one may use a pure carbohydrate food. Within twenty-four to forty-eight hours the curd of whole milk should be added to this, and within a very short time the whey is gradually increased. Cod liver oil may be given in the amount of one-half to one teaspoonful three times a day continued over many weeks and months.

6. One should avoid the use of alkalies in treating another condition which may perchance be present at the time of the convulsive seizures.

DISCUSSION.

DR. H. M. RICH OF DETROIT: Dr. Grulee has a very practical paper and there is hardly any condition in the diseases of infancy that arouse the parents of your small patients to a pitch of greater anxiety in watching it than convulsions, especially if they be repeated. If one is managing this sort of a case, it certainly is very important to be able to recognize the condition which the Germans have called the "spasm diathesis." The term explains itself and has been very completely and thoroughly illustrated by Dr. Grulee. It means, in effect, that here is a child in such a condition that stimuli of various characters, gastroenteric stimuli, which ordinarily would not affect the child, will give the child convulsions or convulsive movements of various kinds. I would add to the classification, which Dr. Grulee mentioned, also the condition of physical spasm. I remember a case in which there were both laryngismus stridulus and physical spasm. We may have the complete range of convulsive movements. Dr. Grulee mentioned having seen seventy in twenty-four hours. I sometimes exchange stories with him in the city, and I want to say now that we had one in Detroit that had one hundred and forty-four.

One other condition of convulsion which was not mentioned, but which would perhaps come under one's classification, is the very severe and prolonged convulsion which often accompanies the onset of tuberculous meningitis. That is a condition in which you should be very careful not to promise recovery. It is quite characteristic of the onset of tuberculous meningitis to have convulsions lasting several hours and extremely severe in character. I can certify to the correctness of the frequency with which adenoids and rickets accompany these conditions. I would say, however, that this is by no

means confined to children in poor circumstances; it occurs on the best streets and in some of the good houses, although it is, of course, much more common among the clinic patients who come from the poorer districts.

DR. C. W. HITCHCOCK, OF DETROIT: Far be from me to assume to attempt to illuminate the dark fields of epilepsy or pretend to know just what epilepsy is, but it does not seem to me the essayist has conclusively differentiated between epilepsy and spasmophilic convulsions. Those patients that come to the neurologist later on with that symptom complex that we speak of as epilepsy so very often give us the significant history of early and frequent convulsions in childhood as to make me skeptical as to whether the later epileptic, the later spasmophilia, does not sustain a certain relation to the earlier spasmophilia, because the epileptic is only later on a spasmophilic. It seems to me that for men who see much of children, it is a most exceedingly important paper. When called to a case of convulsions one should always try to determine at once whether they have to deal with an organic or a functional lesion. There are several little earmarks that help us to make up our minds. In the first place, spasmophilic convulsions are very uncommon after the third or fourth month. The other cases very rarely occur in the first three or four months of life, they almost always occur before the end of the second or the second and one-half year, so that if we have a case of convulsion or tetany in a child in the first three or four months of life we may conclude with some degree of safety that we have a case of spasmophilia, but if the child is in its second or second and one-half year we may conclude with some degree of accuracy that we have not a case of spasmophilia but a case of organic disease. That is one point.

In the next place, they occur very much more frequently in the winter time than in the summer time, as mentioned by Dr. Grulee. That is another point.

In the third place, it is true that almost always in spasmophilia, in any of its latent manifestations, we find rickets or some indication of rickets. As Dr. Grulee said, they almost always occur together. We do not know just what the relationship may be between them.

In the fourth place, and what is more important than anything else, electric excitability is increased. Von Pirquet and a good many others say that over 50 per cent. are breast fed babies of those that have spasmophilia. Now, if we tested at regular intervals our breast fed babies with the electrical reaction, we might do a great deal of good and prevent a whole lot of neurotic trouble later on, because there is hardly any other way of estimating in a physical way the degree of disease present in the body in any condition I know of that compares with, is so scientifically correct as the estimation of the degree of spasmophilia in a baby by simply taking its electrical reaction. If you get a reaction under five amperes it is spasmophilia usually; if it takes more than that, the baby has not spasmophilia. So that, when we get a case of spasm in a baby, if it is a bottle fed baby, if it reacts with a current of two or three amperes, if it is in the winter, it may be a well-to-do baby or a poor baby, we generally have a case of spasmophilia.

DR. V. A. CHAPMAN, OF MUSKEGON: I would like to ask if calcium lactate in such doses does not cause gastrointestinal disturbance. Also, I would like to ask Dr. Grulee about one of the diagnostic points, if a light tapping of the masseter muscle causes spasms.

DR. CLIFFORD G. GRULEE, CHICAGO: In reference to Dr. Rich's discussion, his fish story is a little bit bigger than mine. (Laughter.)

As to Dr. Hitchcock's remarks in regard to the differentiation of spasmophilia from epilepsy, Birk, some eight or nine years ago, followed up from fifty to sixty cases in the Breslau clinic which had during infancy shown increased electrical irritability. In no case was there any epilepsy or special nervous phenomena to be noticed as a result of the spasmophilic tendency. It seems to me that epilepsy may begin in infancy the same as spasmophilia, but, as I tried to show, and evidently did not, there is a distinct difference between the convulsions of epilepsy and those of spasmophilia. The convulsions of spasmophilia show increased electrical irritability, have the laryngismus stridulus and other signs. Epilepsy comes at irregular but decreasing intervals. There is usually one rarely before the sixth month, then every two or three months, then every month and so on, the interval between epileptic convulsions being decreased, naturally. There is in the epileptic convulsion that I have seen no increased electrical irritability. I think that probably the profession has held the idea that a convulsion was a convulsion and that a history of convulsions in infancy meant the possibility of epilepsy later on. As I mentioned in the paper, there is a distinct possibility that small hemorrhages into the brain may occur through very severe seizures of a spasmophilic nature, but I do not believe we have any evidence to show that epilepsy is not a distinct entity aside and apart from spasmophilic convulsions. If such evidence is in existence, I have never seen it, and there are many ways where the epileptic convulsion seems to differ distinctly from the spasmophilic.

I am not aware of the Von Pirquet report of 50 per cent. of his bottle fed babies having increased electrical irritability. It is extremely rare in my experience to have breast fed babies show increased electrical irritability.

Dr. Chapman asked about the giving of calcium lactate and about the cheek tapping. First, calcium lactate is not soluble in water, but it can be mixed up with a teaspoonful of water and given to the baby. It is very likely that the baby does not get the full amount of fifteen grains of calcium lactate. At the same time, I have not seen any gastro-intestinal disturbance from calcium lactate. I have given it to five or six cases. Chvostek's sign, which is elicited by tapping on the cheek with resultant twitching of the masseter muscle and perhaps the corners of the cheek or the mouth, while it is frequent in spasmophilia, is not altogether characteristic. You will get your Chvostek sign in most cases, but in many cases you will not get it and in many others, where it is present, there is no increased electrical irritability. However, the Chvostek sign is of some help, because it does frequently occur in spasmophilia.

104 S. Michigan Ave.

THE ADMISSION OF INDIGENT PATIENTS TO THE UNIVERSITY HOSPITAL, ANN ARBOR, MICHIGAN.*

REUBEN PETERSON, M.D.

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It seems necessary to preface my remarks by a short discussion of the title of my paper as it appears on your program. As I study the various legislative acts having to do with the admission of certain patients to the University Hospital and see the practical application of these various laws and their relations to the probate judges of the State it seems to me that almost the entire question revolves upon the definition of the word "indigent." This word undoubtedly has come to have a certain legal definition. An indigent person is one who for one reason or another is so destitute, needy or poor that the township, county or state must step in and so provide for his existence that he will not perish for lack of sustenance. Such individuals then become public charges of the town, county or state and the maintenance of such persons are provided for out of the tax roll assessed by the State or the different divisions of the State. Such "indigents" are spoken of as county charges, the county poor, paupers, et cetera. Necessarily there has always gone with the various names by which these unfortunates have been designated a certain stigma. In song and in verse and in daily experience it is easily demonstrated that the average American will do almost anything rather than to become a county charge, an indigent. Dire necessity may compel him or his family to accept aid from the town, county or state but the self respecting fight against it as long as they can and are adverse to having the fact known to the community at large. Undoubtedly this is as it should be and is the underlying factor which keeps the number applying for and accepting aid within reasonable limits.

Ever since the establishment of the University Hospital those having in charge the class of indigents referred to above have availed themselves of the free medical and surgical treatment which has always been a fundamental policy of the institution. But the ways of caring for the sick and poor throughout the State are very varied and so well known to you as to make it unnecessary to elaborate further. Some county supervisors or superintendents of

the poor availed themselves of services of the experts of the staff of the University Hospital while others decided that indigents, even if they needed special medical or surgical care and treatment could be and therefore should be cared for at less expense in the county houses and infirmaries.

I beg of you not to think that I am criticising the care of the sick poor in county houses by the Michigan physicians nor am I claiming that the clinicians at the University Hospital are skilled above all others. Nor is it necessary to be connected with the State Hospital to be a skilled specialist. But the latter can not afford and, as a matter of fact, does not give his services to the indigent class who are in need of his services. Usually such patients are treated by physicians under a contract with the county, the lowest bidder securing the contract. The physicians and surgeons connected with the University Hospital, on the other hand, are paid by the State not merely to teach medical students, but for the time necessary for the care of patients in the hospital. Since they are chosen for their positions because at least they are considered experts and because their time devoted to the care of hospital patients is well paid for it would indeed be strange if the average indigent patient would not stand a better chance of cure in the University Hospital than under a contract system. At the present time any supervisor or superintendent of the poor can send patients to the University Hospital at the expense of the county, the latter guaranteeing to pay the usual hospital rates for board and maintenance. Such patients differ in no respect from other hospital patients referred by physicians except that they come under the hospital rule giving preference in assignments of beds to state patients.

But there is another class of patients whose admission to the hospital is provided for by statute in whom the probate judges are particularly interested. These patients may or may not be "indigent" as we have defined the word, that is, they may or may not be county charges. Without passing in review the various acts prior to Act 274 passed by the legislature in 1913, it will suffice to analyze this act or such portions of it as apply to the probate judges.

I beg leave to read the title of the bill although it doubtless is well known to you all: Act No. 274 of the Public Acts of 1913.

"An act to provide for the medical and surgical treatment of children who are afflicted

*Paper read before the Association of Probate Judges of Michigan at Cadillac, July 14, 1915.

with a curable malady or deformity and whose parents are unable to provide proper treatment, providing for the expense thereof and prescribing the jurisdiction of the probate court in such cases.”

It will be noticed that the word “indigent” does not appear in the above title. Why is this except for the purpose of recognizing that there are children within the State whom the latter is in duty bound to help whose parents and guardians can not be regarded as indigents yet who are unable to provide for hospital care and treatment of such afflicted children? In other words by this act the legislature has recognized that such a class exists and provides the necessary machinery by means of which they may receive aid at the hands of the State. By means of this wise law the State provides for the hospital care and treatment of children with congenital defects like hair lip and cleft palate, and of children with deformities resulting from infantile paralysis and tuberculosis. In fact the purpose of the law is to provide the means whereby the ills of children can be ministered unto in such a manner that self respecting and self supporting adults shall result. By implication this law says that a deformed child is bound to be a burden upon the State, hence the latter is in duty bound to provide the means whereby it can be relieved of this burden in the shortest possible time.

It is essential that the full significance of this law be grasped if the greatest good is to accrue from it to the State. As far as I have been able to ascertain it is the first law of its kind in any state in the Union. In fact it has served as a model for other states and probably will be more widely copied when its far reaching benefits are seen.

In order that no advantage shall be taken of the general broad statement that the act applies to children for whom their parents or guardians are unable to provide proper care and treatment, the determination which parent is and which is not able to pay is placed in the hands of the probate judge. The law specifies that the latter shall investigate the case through the county agent or superintendent of the poor and a physician appointed by him for the purpose of such investigation. Undoubtedly the value of the law lies in the fact that, like laws relating to the commitment of the insane, the decision rests with an officer of the State who can grasp the purpose of the law and apply it without unnecessary red tape. The judge of probate must settle in his own mind from

the report of his agent whether the parents or guardians of the child are in reality able to pay for suitable hospital treatment for the afflicted child. The parents in a particular case may be far from being county charges yet they may be just as far from being able to raise the money necessary to restore their child to health. It is for the judge of probate to determine whether the interests of the State and the particular child in question are not best served through the State’s expenditure of a certain sum of money in the attempt to restore the child to health. I wish I had the time to tell you what this law has done for the afflicted children of Michigan. I am at work now on a report of what has been accomplished in the cases of seven hundred children who have been admitted to the hospital during the past two years under the law referred to above. However, in the brief time at my disposal I can only assure you that the most cruelly afflicted children have been restored to health, their lives made happy and placed in a condition whereby they can become useful citizens of the State. When the report is completed I will see that each of you receives a copy but until that time I ask that you one and all come to the Hospital and see for yourselves what is being accomplished.

The seven hundred children mentioned above, all of them referred to the hospital under Act 274 during the last two years by the probate judges of the state were distributed amongst the counties as follows:

Alcona	2	Huron	5
Alger	1	Ingham	21
Allegan	2	Ionia	3
Alpena	3	Isabella	4
Antrim	7	Jackson	56
Arenac	2	Kalamazoo	16
Baraga	1	Kalkaska	5
Barry	4	Kent	28
Bay	10	Lake	2
Benzie	2	Lapeer	5
Berrien	19	Leelanau	1
Branch	8	Lenawee	2
Calhoun	18	Livingston	4
Cass	3	Luce	1
Charlevoix	5	Macomb	5
Cheboygan	4	Manistee	8
Chippewa	20	Marquette	14
Clare	6	Mason	1
Clinton	4	Mecosta	2
Crawford	2	Menominee	4
Delta	1	Midland	2
Eaton	5	Missaukee	1
Genesee	21	Monroe	2
Gladwin	2	Moncalm	23
Grand Traverse	7	Montmorency	2
Gratiot	3	Muskegon	1
Hillsdale	3	Newaygo	1
Houghton	6	Oakland	17

Ogemaw	1	Sanilac	8
Ontonagon	2	Schoolcraft	3
Osceola	11	Shiawassee	14
Oscoda	1	St. Joseph	5
Otsego	4	Tuscola	5
Ottawa	12	Van Buren	10
Roscommon	1	Washtenaw	121
Presque Isle	3	Wayne	46
Saginaw	10	Wexford	1

No patients were received from the following counties:

Dickinson, Emmet, Gogebic, Iosco, Iron, Keweenaw, Mackinac, Oceana, St. Clair.

The following will give you some idea of the maladies and diseases for which these children were treated during their stay in the hospital:

Paralyses resulting from infantile paralysis.

Wry neck.

Pott's disease of the spine.

Fractures

Dislocation of the hips.

Tuberculosis of various joints.

Club feet.

Knock knees.

Rickets.

Tumors of the brain.

Cerebral hemorrhage.

Tumors of the spine.

Cleft palate and hair lip.

Hernias.

Septic tonsils and adenoids.

Tumors of the throat.

Mastoid infection.

Nasal troubles.

Inflammation of the eye.

Ulcers of the eye.

Cross eyes.

Syphilis.

Skin diseases.

The latest bill relating to the admission of patients to the University Hospital was passed by the last legislature. Briefly this bill, Act No. 153, Public Acts of 1915, provides the machinery whereby the probate judges can refer adults to the hospital. The title of the bill is as follows:

"An act to provide free hospital service and medical and surgical treatment for persons afflicted with a malady or deformity which can be benefitted by hospital treatment who are unable to pay for such care and treatment and for pregnant women unable to pay for such care and treatment and for the children of such pregnant women born during the period of hospital care, and providing for the expense thereof, and prescribing the jurisdiction of the probate court in said cases."

It will be noted that here also the word "indigent" fails to appear. Hence while the indigent patient may properly come under this act, persons not generally recognized as indigent

may also come under the provisions of the act. For instance, a self supporting man with a large family suddenly develops a hernia which wholly or partially incapacitates him from work. He is not a county charge, he does not wish to be a county charge, yet he has saved nothing because of his family, and he has no money for an operation and hospital treatment. It is to the interest of the State to prevent such a man from becoming a charge on the county. A small sum expended for the proper hospital treatment will restore such a man to health and insure for the county and state a self supporting and self respecting citizen.

It is needless to explain the references to pregnant women. It seemed necessary to specifically designate this class of patients since they are not strictly speaking afflicted with a malady or deformity, yet they are in a condition which under some circumstances demands hospital care. Under this act unfortunate women without means and illegitimately pregnant can be sent to a state institution by the probate judges where they and their children can be guarded and protected. If the judge so decides it will be comparatively easy for him to preserve the secret of the unfortunate woman who, more sinned against than sinning, may be given another chance after she leaves the hospital, and best of all the children of such patients, who at least are guiltless, are watched over and guarded by the State and become one of its distinct assets.

In conclusion may I ask that you give the machinery the State has placed in your hands for the relief of certain classes of people within your jurisdiction, a fair trial. The hospital authorities stand ready at all times to co-operate with you. If things do not go right let us know and we will do our best to remedy them. We are convinced from what we have seen of the practical workings of the children's law that the new law will be productive of equally good results, if you will give it a trial. It rests with you to refer the patients, with us to cure or at least to benefit them.

THE TREND OF MEDICINE FIFTY YEARS AGO.*

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GRAND RAPIDS, MICH.

It has been said, "If we are to have a clear view of the panorama of medical history we

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must necessarily stand on the shoulders of our predecessors." On this the fiftieth anniversary of the formation of the Michigan State Medical Society, it seems most fitting that I should take you back to the years immediately following the Civil War that we may become for the moment the doctor of fifty years ago.

The progress of medicine was so rapid in the years immediately preceding and following the first meeting of this Society that I can conceive of no better vantage place than to be mounted like the small boy on father's shoulders.

It shall be my endeavor to briefly sketch the trend of medical thought at this time, not to give you the views of the scientist in his laboratory, whose new discovery is to revolutionize medicine, not the views of the specially favored professor in the center of learning, but rather the views, the discussions, the problems agitating the man in the field, whose practical activities, whose trend of thought, is after all the true index of the advancement of medical science.

The dates of epochal medical discoveries are, of course, not the dates of their general application, but this was a time when early medical discoveries were coming to their fruition in the laboratories and hospitals of the Old World, and it will aid us in making our translation to the spirit of the times of fifty years ago if we refresh our memories from the chronological tables. Under the microscope, bacteria had been seen in 1687 by Leuwenhoek, but the true founder of bacteriology was Louis Pasteur, who first defined a "ferment" the accepted cause of the so-called zymotic diseases as "a living form which originates from a germ," and paved the way for Lister by his discovery, in 1865, that the ageing of wine by micro-organisms could be prevented by partial heat sterilization (pasteurization). Lister came forward, August 12, 1865, with his discovery of carbolic acid as an antiseptic for wounds, a lucky experiment which revolutionized surgical practice; but Weigert was the first to stain bacteria in 1871, and the important specific organisms of typhoid, gonorrhea, malaria, tuberculosis, and cholera, the pus germs strepto and staphylococci, were all determined about 1880.

It is interesting to know that the Harvard catalog first mentioned the microscope in its edition of 1869-70, and the stethoscope in 1868-69, yet the stethoscope was used by Laennec in 1819 and Stokes had written a monograph on its use as early as 1825. Garrison in his *History of Medicine*, says that neither Keen nor Tyson

saw a hypodermic syringe or a clinical thermometer during 1862-65, the Civil War period. True, Sanctorius in 1625 had described a clinical thermometer and Currie, a Scotchman, had used it for checking his results in the treatment of typhoid by cold baths in 1800, yet Wunderlich was the one who put it on a practical basis through his article, *The Relation of Animal Heat to Disease*, published in 1868. From Sir Samuel Wilke's *Biographical Reminiscences*, I take this report on the thermometer as obtained from the 1870 records of Guy's Hospital. "At that time the instrument had not come into general use and was looked upon with curiosity. It was of great length and was shown at a medical society as a new medical discovery, but of very great importance. It became a subject of discussion as to what part of the body should be chosen for its use, and the length of time it should remain there."

The American Medical Association early accepted as one of its chief responsibilities the prevention of disease and as a necessary preliminary the investigation of the hygienic condition of the country at large. As one looks through the transactions of the Association for the years immediate to fifty years ago he finds a considerable amount in each volume devoted to reports of the health conditions in various states, and showing the importance then attached to the general or natural conditions often under the heading "Meteorology, Medical Topography, and Epidemic Disease." In the 1874 volume I find a report on the "The Influence of Drainage on Public Health in Michigan," by R. C. Kedzie, member of the State Board of Health, which at this time, by the way, was one of the five State Boards of Health in this country. In this report he calls attention to the fact that "from an early day Michigan had an unenviable notoriety as a land of swamp, the home of malarial fever of every name." In 1850 the general government donated to the state "swamp lands within its border on the condition that the state spend the proceeds arising from the sale of the same so far as may be necessary to their drainage and reclamation for cultivation and the health of the country." The state received thereby 5,689,054 acres.

In order to determine the results of drainage a questionnaire was sent to the doctors throughout the state—this was in 1874. As was to be expected, the drainage had lessened the amount of malaria. There are two questions the answers to which I find particularly interesting. First: How large a percentage of disease in

your practice is of malarial origin?—and the answers range quite uniformly, if we except Detroit, from 50 to 75 per cent. Second: Has the type of disease as a whole changed in your field?—and these men in the field find fewer intermittent fevers, a partial change to continuous or typhoid and typho-malarial diseases. Doctor Bliss of Grand Rapids, says, “not nearly so much intermitten and remittent but the malarial influence can still be recognized in a very large proportion of cases of nearly every disease which prevails in this locality.”

In this connection and in the attempt to faithfully portray the trend of medicine fifty years ago I call your attention to an article “Intermittent and Remittent Fevers,” by J. R. Black of Newark, Ohio, being the prize essay of the American Medical Association for the year 1867. It is presumable at least that a prize essay should represent the newer and more advanced thought of the time and should be scientifically tenable according to the knowledge then possessed. In the course of his paper under the heading “A Few Thoughts on Diseases in General,” he says, “They, the ancients, had evil spirits, a multitude of angry gods, sorcery, witchcraft, evil stars, eclipses, et cetera, as their fountain of woes, while we, according to authoritative texts have cold winds, electric disturbances, poisons from vegetable growth, and poisons from vegetable decay. These are the accredited sources of nine-tenths of our diseases.”

Taking up the causes of intermittent and remittent fevers, he dismisses the malarial hypothesis as a causative factor, and says, “The lack of a uniform and proportionate relation between intermittent fever and the assumed source of its supposed efficient cause, malaria, is the chief, but not the only reason for the unsettled credibility of this hypothesis.”

“Certain general conditions, go far to show that the received doctrine of a specific agent operating upon the system according to the principle of zymosis and producing fever of an intermittent or remittent type is clearly erroneous,” and again, “The continual grasping after some special extrinsic agent of evil is but a distracting waste of time * * * * The cause is not in some tangible specific entity, some deadly enemy, but in ordinary vicissitudes which our inherited and acquired predispositions are not fitted to withstand * * * * In harmony with this interpretation of nature, endemics, like autumnal fever, must have for their source some intensified local change or

conditions which interrupt the regularity and poise of the organic function as they are at present constituted * * * *”

So after bringing forward his arguments antagonistic to the malarial hypothesis, he proceeds to show that intermittent and remittent fevers are dependent upon the Diurnal Variations of Temperature. There appears to be one condition always present and precedent in the production of autumnal fevers, this, he concludes, and enforces his opinion by those of various writers, is a mean temperature of 60 to 65 degrees. It is the abruptness of the change from heat to cold, and vice versa, that is so often deteriorating to our bodily welfare. These diurnal changes impress on the organism every twenty-four hours the true physiological daguerreotype of agual paroxysm. Upon their extent and the vital tone depends the development sooner or later of a full and complete picture. The cause attains its maximum at a special season of the year—so does the effect. The cause is periodical—so is the effect. The amount of cause varies greatly according to contiguous localities—so also does the effect.

From an exhaustive study of the tables which he has made of the diurnal oscillations at various army posts throughout the country, he concludes that the condition which determines the grade and prevalence of the remittent form of periodic fevers is observed to be the range of the mean summer heat.

It is his conclusion that “It cannot escape the attention of the most firm believer in a special entity that this theory gives a complete and luminous exposition of the phenomena which heretofore have been wrapped in the most perplexing mystery. Taken all in all the simplicity will, we fear, militate against its careful consideration by so many who love to revel in the recondite, but which in reality is of itself evidence of its harmony with every well ascertained law of nature; simple, yet grand, obvious yet full of beauty, and comprehensive of design.”

In considering this to us rather amusing view of the causes of these fevers it is well to bear in mind that at this time variations in temperature, variations in altitude, geological formation, and in general the topography of the country were supposed, in the absence of other determinable causes to be the prominent factors in the production of disease.

Fifty years ago as now the two great plagues compelled the attention of the profession. In the first printed transactions of the State Med-

ical Society is to be found a report of the surgical committee by its chairman, Doctor T. A. McGraw, of Detroit, then as now a distinguished and honored confrere. In this report he says, speaking of syphilis "first of all comes that question which is now agitating the medical world of the quality of the syphilitic virus. Surgeons who have studied the natural history of the disease have noticed that certain contagious venereal ulcers have been followed by constitutional syphilis, while others have produced only local lesions. Now the question arises, is the difference due to the existence of two different diseases or to the peculiarity of constitutions of the individual in question. A question which has a most practical bearing. For the satisfactory solution of this problem further exact clinical observation is necessary, and one authentic case which would bear criticism of the production of one of these diseases by the other would overthrow the doctrine of the duality of the virus, a doctrine whose influence on the practice of surgeons is becoming every day more manifest."

Following out this subject I turn to the address in surgery delivered before the American Medical Association at its Detroit meeting in 1874, by Doctor S. E. Gross. It is interesting to know in view of our latter day freedom of discussion in these matters that he approaches the subject "with great fear and misgiving, with doubt as to its fitness to be discussed on such an occasion." In this address he gives, by the way, the most complete and thorough review of the history of this disease I have ever seen. I do not intend to review this most excellent and exhaustive paper, but just picking here and there, give you an idea of the disease as it was then seen.

By this time, six years after Doctor McGraw's report, it is evident that the unicity of the disease has been fairly well established and the argument centers around the relationship of syphilis and tuberculosis. Says Gross "what is called serofula or tuberculosis is I have long been satisfied from careful observation of the sick and a profound study of the literature on the subject, in the great majority of cases, if not invariably, merely syphilis in its more remote stages. The affinity of serofula and phthisis is now well established. That all these affections are of syphilitic origin I will not pretend to assert, but that most of them are I am abundantly satisfied from personal experience." He quotes Professor Furneux Jordon of England who very justly says, "We can man-

ufacture strumous disease at pleasure since all that is necessary is to bring into contact two persons affected with hereditary syphilis and they will be sure, especially if in addition to this taint they have a muddy complexion, to produce children one of whom will have phthisis, another Pott's Disease of the spine, a third coxalgia, a fourth enlarged glands or hydrocephalus." As a treatment, it is evident that his sheet anchor are the iodides, and that he believes that "syphilis in nearly every form and stage may generally be satisfactorily if not successfully treated without the aid of this metal (mercury)." In conclusion he says, "I have endeavored to show that when the syphilitic virus has once taken full possession of the system no mode of treatment hitherto devised is capable of permanently dislodging it or of neutralizing its effect. All that can be done, even with the aid of the most approved remedies, is to stay for a time its action."

Let us be thankful that the progress of medicine now permits us to discard this very pessimistic view.

The term "consumption" in that day embraced not only tuberculosis but those strumous and catarrhal infections that had resisted medication. Accepting this view it is still interesting to know that consumption heads the list of fatal diseases in an overwhelming way. In 1860, of every thousand persons who died in Maine 295 were entered up as having died of consumption, New Hampshire 266, Massachusetts 234, Tennessee 110, Illinois 109. In a report on the epidemic diseases of Illinois, (Trans. A.M.A. 1867), the favorable showing of Illinois as compared with Massachusetts is based first on the topographical differences. Illinois being a prairie state, Massachusetts being hilly and mountainous "in consequence of which the electric state of the atmosphere varies on opposite sides of the same elevation." Sudden changes in temperature, as a result of ascending and descending the elevation, subjects the individual to a succession of physical influences which in their tendencies favor the development of local congestion and inflammation. But whoever wrote this report was very close to the truth when he emphasizes the fact that the New Englander lived in air tight houses with air tight stoves, while comparatively few families in Illinois had arrived at the luxury of an air tight house from which the pure air could be excluded.

In the Transactions of the Michigan State Medical Society for the year 1867-68, I find

"A Report of the Committee on the Zymotic Diseases" by Doctor E. P. Christian of Wyandotte. Right here let me say that no one can read this paper without being impressed with the fact that Doctor Christian must have been a man of unusual reasoning powers and marked scientific insight.

This paper is of particular interest to us since it indicates the point of view of fifty years ago in reference to the infectious diseases. Be it remembered that the specific causes of these diseases were not to be discovered for more than fifteen years. The profession at this time accepted the so-called zymotic theory—namely; that the cause of these diseases is organic matter capable of multiplying itself in the fluids of the body. The conception of the specific entity is, however, that of the modern "ferment" rather than the bacillus. Nevertheless, they recognized that typhoid, diphtheria, smallpox, and the eruptive diseases were contagious and had a definite incubative period. Christian speaks of these diseases as the "area incognito," and calls attention to epidemics in the state during the current year, 1867, of typhoid and diphtheria. The former characterized by marked virulence and "what seemed unequivocal evidence of a contagious element attaching to it." The diphtheria epidemic was milder and was treated by the author, "uniformly successfully," he says, by large doses of quinine and tannin, with a wash of saturated solution of tannin. He notes that these diseases are disposed to manifest an epidemic relationship, such as typhoid and erysipelas, puerperal fever and erysipelas, scarlet fever and erysipelas, measles concurrent with or followed by scarlet fever and others. This epidemic relationship has been expressed by the phrase "epidemic constitution of the atmosphere," but the author does not believe that this explains it.

"Now," he says, "are there any facts in the natural history of these diseases or any presumptions from the analogies of nature which may throw light upon the subject?"

"In the classification of the animal and vegetable kingdom we observe the 'Succession of Life,' in the regular graduation of species, a law upon which has been founded the theory of the 'Transmutation of Species.' Beginning at the top with man, we descend through a succession of species allied by anatomical structure and physical function to the lowest, or what appears to be the connecting link between the animal and vegetable kingdom, the sponge. And then again, beginning with the higher

organization of this kingdom we descend through successive links to the lower, to the ferns and fungi, to microscopic, parasitic growth, of which class some are supposed to be the cause of certain disease, at least if not a cause an element of the diseases, and still further onward in the series of fermentation upon the presence of which in the organism is founded the theory of causate or of zymotic diseases."

"Now if the same localities and conditions favor the germination and growth of allied species, which is certainly the case, at least within certain limits, and if allied species may be supposed to possess similar natural properties; that is, if the same law pertains to these lower order of organisms as to higher, and if the theory of the zymotic origin of these diseases be correct, we have in these facts some explanation of their epidemic relationship or concurrence."

Pursuing the analogy he raises the question whether civilization in its different stages and phases may not create a proneness to new and different forms of disease action.

Please note here that just now the laboratory man is showing us that there is a transmutation of species in germ life. An excellent example is Rosenow's work on the Transmutation of Streptococci to the Pneumococci, and vice versa, while Foulerton has shown the possibility of transmutation from the branching forms of the mycelium and streptothrix to the bacillus tuberculosis. There is then in the laboratory at least an evident relationship between the causative factor of actinomycosis and the bacillus of tuberculosis. Christian and the men of his day were getting "warm" as a small boy would say, in their hunt for the specific cause of disease, and their labors were shortly to see their full fruition.

As one reviews the Transactions of the Michigan State Society for the first five years, he finds that after all these men were interested largely in the things that we are interested in today. For the most part keen men doing their very best to solve the problems which confront them. They are having some of the same problems that we are having, for instance, at a time when the profession at large should have dropped some of their old foggy notions and accepted the advancement already made in medicine there are to be found a certain small minority, loathe to part with their old ideas. It is because of this, no doubt, that there is to be found in the transactions of 1870 a "Report of

the Committee on the Remedial Substitutes for Blood-letting," yet the lancet had quite a number of years previously been superseded in every large hospital of the country and its indiscriminate use condemned.

"The Contagion of Typhoid" is the subject of a paper, with the conclusion that the evidence shows that typhoid fever is often propagated by contagion, yet that cases are continually occurring which cannot be traced.

A report on the medical properties, more particularly the magnetic properties of the various springs in Michigan, serve to fill nearly the entire volume of the Transactions of 1871.

Vomiting of pregnancy was concerning them at this time, as it still is.

As a part of Doctor McGraw's excellent report to the State Society, in 1868, from which I have already quoted, he takes up the question of cancer and says "There is no disorder in the long line of human maladies which has received more devoted study than cancer. The profoundest intellects of the profession have labored in vain to discover the mystery of its malignity. It has been made to undergo the most rigorous analyses of chemistry, and the best chemists can give as a result only vague accounts of the diseased albumen. It has been subjected to the highest powers of the microscope, to the most minute examination of morbid anatomists, but neither microscopic nor dissecting knife have been able to unveil its secrets. Whatever we may do, cancer takes its course steadily and inexorably toward the grave." The malady has defied all investigation and all treatment, and he urges further investigation of this disease through organized effort on the part of the State Society, and particularly a careful examination into the relation between cancer and tuberculosis or other constitutional disease. It would seem that they were fifty years ago just as close to the discovery of the secret of cancer as we are today.

The State Society early started out with a conscious effort to improve the general health of the community. The hygiene of school children was made an early effort. Much of the issue of the Transactions of 1873 is given up to exhaustive reports of committees appointed for this purpose, who take into consideration the construction, warming, ventilation, and sewerage of school buildings.

That our fathers had the problem of the unlicensed practitioner to contend with, as we have today, is shown throughout the Presidential addresses year after year. I find particularly

interesting in the verbage used and in its forcefulness, the Presidential address of Doctor Jerome of Saginaw, the first that I find in the printed Transactions.

"The domain of medicine has been a sort of a fairy region, where the visionary theorists with their air-built castles and speculative fancies have roamed in search of the hidden elixir of life. Such investigators have astonished the world hitherto with their discoveries; their isms and pathies in countless numbers have swarmed along the pathway of medical science, and their adherents, too, have sounded out their praises with trumpet tongue.

"There has been vitalism and organism, humoralism and mechanicalism, eclecticism and galvanism, besides a multitude without number of minor isms. And where are they now? Echo alone answers where. They have dissolved into thin air, like the frost-work of an autumn's night; or have crumbled away from their own inherent rottenness, or overborne by their own unsupported and top-heavy weight, while around their final resting place their few remaining disciples gather to pay sepulchral honors.

"Are they dead, brethren, or do they sleep? They are not dead, but as the caterpillar of today coils himself in some nook or cranny, to await the coming of the new year, when his successor on gilded wing shall come forth far more beautiful and attractive than the original worm."

I trust that I have been able to give you some idea of the trend of medical thought fifty years ago. It seems to me that after all these men were thinking pretty clearly and were succeeding wonderfully well considering their handicaps. As we review the problems confronting the practice of this time, we come to a greater realization of the wonderful progress that medicine has made and is making, and to a fuller appreciation of the fact that it is only now that medicine, real scientific medicine, has come into her own.

SUPPURATIVE ETHMOIDITIS.

STANLEY G. MINER, M.D.

DETROIT, MICH.

The ethmoid labyrinth, occupying practically all of the area of the upper half of the nose lying between the two lateral plates of the orbit, and extending from the posterior inner surface of the ascending process of the superior maxilla

to the anterior wall of the sphenoid labyrinth, obviously, is of considerable importance to the rhinologist. The magnitude of its surface exposure and its close proximity to the respired air with its numerous ostia, make it particularly prone to disease by contiguity and continuity, and were it not especially capable of eliminating foreign material, because of its well supplied and active ciliated epithelia, and of the comparative small amplitude of its cells, it would be a more frequent cause of trouble.

Its surgical topography, like the frontal and sphenoid, is uncertain, only more so, and in consequence of these numerous departures from the classic, the inhibition of one or more cells is easily impaired and pathologic conditions produced that advance the development of disease rather than oppose it. While this is too frequently so, nevertheless, there are sufficient fixed anatomic landmarks to justify the arranging of several standard operative methods, that place the surgical technic on a comprehensive basis, and probably fulfils all that is needed to obtain desired results.

Each lateral capsule is divided by the lamella of the middle turbinate forming two groups of cells, anterior and posterior, so called, and the arrangement of the several cells of these two divisions depend largely upon the dimensions and positions of the uncinate and ethmoidal bulla lamella for the anterior group, and of the superior and supreme turbinate lamellae for the posterior group. (Seydel). The middle turbinate lamella being situated unduly forward or backward gives us some hint as to the cellular arrangement and especially the size and number of the posterior cells.

These points can usually be well established by a careful examination, that should embrace all of the methods employed in sinus diagnosis and once obtained, the proper operative technic and route is easy of selection.

Suppurative ethmoiditis is practically always due to bacterial infection and usually presents itself in the chronic form, and also usually conjoined with the hyperplastic variety, and may exist as a latent unicellular empyema from an obstructed ostium or involve all the labyrinth with patent ostia. Fortunately, the majority of cases are limited in area to the anterior cells, and the earlier recognition of anterior ethmoiditis than formerly, with the acceptance of its import in the etiologic role of other nasal affections will largely diminish the frequency of infections of the other sinuses and probably myxomatous and atrophic lesions also.

It is not within the scope or time limitation of this paper, but I will presume at least to recall to your mind the frequency of a hyperplastic condition of the middle turbinate, associated with an atrophied inferior turbinate and limited to one side of the nose. The ethmoidal is susceptible to invasion by the same micro-organisms as the other sinuses and in the same manner, via the inspired air through the ostia, and as established by Killian through the blood or lymph-channels, but is more frequently invaded because of its being more concerned in the respiratory function of the nose, and of its greater frequency in departure from the classic in its cellular arrangement, thereby interfering with the normal drainage. This favors the development of an acute catarrhal ethmoiditis into a chronic form, with the production of the edematous sinus mucosa and the replacement of the ciliated epithelia by the squamous variety, thus impairing its eliminative powers and destroying its resistance to overcome any subsequent microbial invasion.

Unquestionably this resultant condition is a more frequent cause of acute rhinitis than is supposed even by the specialist and should not be minimized.

The treatment of suppurative ethmoiditis is largely surgical and although the determination of the micro-organism producing the infection is essential, particularly in acute cases, it is universally conceded, I believe, that the virulence of the infecting bacteria is secondary to defective drainage from congenital or acquired cellular aberrations as an index for prognosis. Preliminary to any surgical advance upon the sinus proper, all myxomatous tissue should be removed, especially under the middle turbinate, proper position of the middle turbinate and septum established and everything done to secure patent ethmoidal ostia, and avoiding any plan of treatment or effort at dislodging secretions that may produce extension to adjacent cells or sinus, or rupture of wall of sinus because of an existing dehiscence. The next step is where perhaps many feel is the parting of the ways, some favoring conservative surgical interference by opening some of the cells and securing improved drainage, confining their operative field within the nose. Other operators entirely eviscerate the ethmoidal cells following a middle turbinectomy, starting posteriorly, and again more recent writers, advocate beginning at the anterior cell and advancing posteriorly as indicated by their findings, and feel assured if necessary, of extending their efforts to every

part of the ethmoidal labyrinth and the sphenoidal as well, with the minimum of risk and thoroughness of work. Again our ultra-radical friends prefer entering the ethmoid cells from without the nose at the posterior border of the lachrymal bone.

I will not presume to even partially describe any of these methods so familiar to you all, nor to mention other surgical procedures well known to all of us; for it seems to me that every case is a law unto itself and while it might be best to adopt a radical course in all acute cases with complication or perforations, I prefer to incline to the conservative methods in most cases, and believe that my results have been satisfactory. Personally I have followed a plan the past five years in sinus work, that is only deviated from in exceptional cases. The patient is prepared in the usual way, and after cocaineizing and blanching the operative field, a few drops of a 5 per cent cocaine solution is instilled in the inner canthus of the eye, nasal retractors are applied, and the patient's head is placed as far back as comfort will permit. The index finger is then firmly pressed against the lachrymal bone of the affected side, and a Hajek curved hook or knife is passed to a point just above and slightly posterior to the anterior tip of the middle turbinate, and thus is opposite to the lachrymal bone and usually enters the anterior ethmoidal cell, force is exerted in a downward and slightly outward direction, the index finger at the inner ocular canthus acting as a preventive guide to perforating the orbital chamber, and even if you should, the damage is a slight one, producing a discolored eye of a few days' duration only.

The knife or hook is then replaced by the eurette and the anterior cells eviscerated, from the nasal process to the middle turbinate lamella; this causes the anterior half of the middle turbinal to hang downward and is easily removed with the snare or cutting forceps. The operative field is then well mopped and all oozing stopped by applying adrenalin solution. An exploratory puncture is then made into the anterior cell of the posterior group; should this be found involved, the patient's head is changed so that the nasal floor is nearly horizontal and the head slightly tilted in the direction of the normal side. The middle turbinal lamella is then removed with the eurette or cutting forceps and the nasal wall of the cells opened by making two parallel incisions, one above and the other below the middle turbinate, extending backward to the sphenoidal cell. This permits of the

easy removal of the remaining portion of the middle turbinate and the nasal wall of the cells, with their thorough evisceration. The superior outer angle of the posterior cell should be omitted in this procedure, owing to the danger of entering the anterior fossa or injuring the ophthalmic veins.

The sphenoidal ostium is easily probed and the outlines of the labyrinth established, and if desired its thorough removal accomplished. After the hemorrhage ceases, which usually is slight, a tamponade of a 25 per cent. argyrol solution is applied to the operative site and the nasal chamber loosely packed with cigarette drainage tubes; an ice-bag applied over the face for three or four hours after the operation seems to prevent post-operative hemorrhage and pain and afford much comfort to the patient.

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URETERAL OBSTRUCTION—REPORT OF AN UNUSUAL CASE.*

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It is not my intention in this paper to go into a detailed account of the various etiologic factors causing obstruction of the ureter, but rather to consider one variety—that variety caused by a comparatively frequent congenital anomaly—in the hope, if possible, to point out a type of obstruction which is frequently attributed to a twisted ureter with a rather freely movable kidney, and classified as such under the heading of Dietl's Crises. While I do not say there is no such thing as Dietl's Crises, I am of the opinion that if more of these so-called cases of crises were subjected to modern methods of examination, it would be found that the trouble was due to something more than a twisted ureter and a movable kidney.

CASE REPORT.

Miss B. H., student, age 19; weight about ninety pounds; height 5 feet 2 inches. Entered my service complaining of recurrent attacks of severe pain in the right upper abdomen, accompanied by a visible swelling in the same region, (which would disappear with cessation of pain), loss of weight and extreme nervousness. Referred by Dr. W. H. Marshall, of Boyne City, to whom I am indebted for valuable notes on her early history.

History.—Father living and healthy. Mother met with an accident and the patient was born in the eighth month, the mother dying a few days later.

As an infant she cried a great deal and was said

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to have had many attacks of "colic." During early childhood she had measles and mumps and was subject to very frequent attacks of epistaxis. She also had recurrent attacks of abdominal pain that had been variously diagnosed "indigestion," "appendicitis," "renal calculus" and "nervousness," by different attendants.

Menstruation became established at 16 and has been normal since.

Dr. Marshall first saw the patient on the evening of May 21, 1914. She had been at school during the day but had suffered from pain in the right abdomen which had progressed from a dull ache at noon to a severe colic at 10:00 p. m. At this time she was writhing in agony, had vomited, was very "nervous" and was on the verge of collapse. She was curled up in bed with her knees drawn up on the abdomen. Temperature 99.2; pulse 110; respiration 25, pupils dilated. Urine scant, acid, specific gravity 1022, albumin and sugar negative. She was given one-sixth grain morphine hypodermatically and in a short time was narcotized enough to permit further examination.

Examination.—She was a rather slender girl, weighing about ninety-five pounds. Her build was rather typical of "Habitus Enteropticus." On the right side of the abdomen extending from the right hypochondrium to the right iliac region was a smooth, fairly regular, elongated, fluctuating tumor. This tumor was but slightly movable and was tender to touch. There was a moderate degree of spasm of the muscles of the right abdomen. The ascending colon was in front of the tumor. Further physical examination of the patient revealed nothing abnormal.

On the following morning, May 22, the tumor had entirely disappeared and she felt quite well. She had passed a quantity of clear urine which was acid in reaction, with a specific gravity of 1015, no albumin nor sugar but the sediment showed many epithelial cells, no pus nor blood. She stated that this attack was typical of those she had had for several years, and that the attacks were more frequent when she was tired and exhausted, and that over-exertion would always precipitate an attack.

Course.—On June 9, 1914 Dr. Marshall attended her in an attack that was typical of the one just described, and, concluding the case was surgical referred the patient to me, having made a clinical diagnosis of intermittent hydronephrosis, of probable congenital origin.

On June 22 she presented herself for examination, having had no recurrence since June 9. The abdomen at this time was scaphoid in shape and deep palpation showed a movable, normal sized right kidney that was somewhat tender as it slipped between the palpating fingers, there was tenderness on firm pressure over the region of the appendix. The patient appeared highly nervous. Urination was normal and unaccompanied by pain.

The following day, after preliminary preparation, X-rays were made of each kidney with negative results. Examination of a twenty-four hour speci-

men of the voided urine was likewise negative. She stated she felt usually well and so far had no premonition of an oncoming attack. She was allowed to go about as usual but was kept under daily observation.

July 4 she suffered another attack, similar in all respects to the ones already described. Examination showed a marked rounded tumor in the right abdomen that was slightly movable, and distinctly visible because of the thinness of the patient. Morphine hypodermatically was necessary to control the pain. As soon as possible X-rays were made again but without revealing anything valuable in diagnosis other than an entire absence of shadows of a suspicious character. The urine expelled when the tumor subsided was pale amber, very slightly cloudy, acid, specific gravity 1009, albumin and sugar negative. The sediment showed some bladder epithelium but no casts, some urate crystals. The "thalein" functional tests showed nothing of importance. She was in a too nervous state to permit collargol injection following bladder and ureteral exploration and inasmuch as the left kidney was normal, it was considered best to use but one anesthetic and operate at that time.

Operation.—Accordingly, on July 8 the patient was etherized and an abdominal incision was made, beginning just below the navel, at the outer margin of the right rectus muscle extending downwards for two and one-half inches. The lower liver border was about one finger breadth below the level of the navel, the transverse colon was at the brim of the pelvis, a general visceroptosis of the entire abdominal contents. The appendix was large, adherent throughout one-half its length, was removed and the stump invaginated. The pelvic organs were negative. The right kidney was palpable beneath the incision, was freely movable, and presented no evidence to palpation of obstruction either in the ureter or pelvis, by any hard body. The incision was rapidly closed, the patient turned on her face with elevation of the lumbar region and an incision made in the right lumbar region extending from a point about two and one-half inches from the dorsal spines behind the twelfth rib extending down and out along the border of the quadratus lumborum nearly to the crest of the ileum. This incision proved ample without dividing the rib, to expose and elevate the kidney. The fatty capsule was stripped away and the pelvis examined. Three adherent vessels were found to cross the ureter at its upper extremity near the pelvis in such a manner as to cause obstruction with resultant dilatation of the pelvis when the kidney moved downward in its scanty bed of fat. These vessels were ligated and divided, examination of the pelvis and ureter at this point showed no constriction, no pelviotomy was necessary. The kidney itself was of the lobulated foetal type, apparently healthy. The capsule was split and stay sutures inserted and anchored to the inner margin of the wound and the wound closed with a small roll of an old rubber glove inserted in the lower angle for drainage. This was removed at the end of twenty-four hours.

Post-Operative Course.—The patient made an uninterrupted recovery, both wounds healing by primary union. She was discharged from the hospital about three weeks later and up to the present time has had no recurrence of her old trouble.

As has been pointed out by Peterkin of Seattle, (1) "There are no two pelves exactly alike, even in the two kidneys of the same individual." it obviously follows that the blood supply to the organ must likewise vary accordingly, in the size, number, and location of entrance into the gland. Marked variances in blood supply are looked upon as minor anomalies when discovered at autopsy or in operations upon the kidney for other lesions and perhaps no great importance is attached to them. However, they are occasionally the cause of disturbances which often become necessarily surgical, by obstructing the ureter near the pelvis of the kidney, causing a hydronephrosis which may become intermittent, or result in a constantly dilated kidney pelvis, and as such should be classified in the same category surgically as any extra ureteral type of obstruction.

Ligation and removal of the vessel or vessels may or may not remove all trouble, if the condition of hydronephrosis has become a chronic one, we are apt to find a constriction at the point of obstruction necessitating a plastic operation on the pelvis of the kidney to overcome the difficulty, using a fatty fascial flap, formed from the fascia attached to the organ to cover the line of suture as is carried out in the Mayo clinic (2).

I do not intend to convey the idea that all cases of anomalous or aberrant vessels of the kidney will cause obstruction for, as previously stated, anomalous vessels were frequently found at autopsy or when operating for other troubles and no great surgical importance attached to them. If this condition is, therefore, so comparatively frequent, does it not stand to reason that when coupled with the condition of movable or floating kidney, or visceral enteroptosis it is more likely to be the real cause of the crises and resultant hydronephrosis than a "twist" in the ureter? In order to twist the ureter sufficiently to cause obstruction enough to produce a visible and palpable tumor the kidney would have to turn on its axis.

In the case just cited we have the patient's own statement that if she was on her feet enough to become exhausted, it seemed to precipitate an attack. This was no doubt due to the fact that the longer she was on her feet, the lower the kidney settled and the tighter it

drew the ureter across the obstructing vessels.

When on her back, under the opiate the pressure on the ureter coupled with the natural tendency of the kidney to resume its normal position, the ureter would become straightened and relief would follow the descent of the urine into the bladder.

Selby (3) in 1912 in reviewing some 300 cases of collargal injections into the kidney pelvis, and ureter, from the Mayo Clinic reports one case which showed a rather marked shadow in the line of the right ureter and kidney which revealed a hydronephrosis when subjected to cystoscopic examination, and at operation was found to be due to obstruction from an anomalous vessel.

CONCLUSIONS.

From the foregoing I have arrived at the following conclusions:

1. That intermittent hydronephrosis is undoubtedly more often due to obstruction caused by an anomalous blood vessel than is generally supposed.
2. That many of the cases of Dietl's Crises are attributable to this fact.
3. That with the modern methods of investigation now at hand, cystoscopy, ureteral catheterization and an injection, functional tests, cultures, X-rays, combined or separate, few lesions of this nature should be allowed to escape improperly diagnosed.
4. Treatment of this condition, essentially surgical, is not attended with the same element of danger as is obstruction from other causes.
5. Other things being equal, the mortality rate in this class of cases should be practically nil.

DISCUSSION.

DR. C. G. DARLING, OF ANN ARBOR: I have listened with the greatest pleasure to Dr. Witter's report of this case and there are some very useful hints brought out here in regard to the diagnosis and operating upon cases of renal colic, of renal calculus. You may sometimes find the calculus in unexpected places. A few years ago, I was called out to a farmhouse to operate on a case of appendicitis covering a week or two. I cut down into this abscess and I found in the region of the appendix a renal calculus which had evidently fallen there by gravity from the kidney, had worked down to the tissues at this point and become lodged there. When this abscess was opened, the tissues were so badly damaged that it was followed by three fecal fistulae. These three fecal fistulae were followed by fourteen weeks in bed before the condition got to a point where repair of the fistulae could be made. I speak of this as indicating one of the complications that

may attend forms of renal calculus. It does not matter so much whether the twisting of the ureter follows formation of the calculus, or whether there was some malformation; except in this way, that after the calculus is removed and the kidney put in place, we can safeguard the kidney.

DR. GEORGE C. HAFFORD, ALBION: These cases, I think, have been in the past overlooked a very, very great deal, at least not diagnosed. I saw a case last year that had been in existence for years. An operation revealed very little kidney tissue left, just enough so that there was a secretion of urine with occasionally an obstruction. Apparently, the patient had been on her feet a great deal. There was a large, palpable more or less movable tumor, which was down in the pelvis. At the operation, the kidney was resected. There was no evidence of stone; if there ever had been one, it had disappeared somewhere; and it was impossible to see whether the obstruction was due to aberrant vessels or not. On resection of the kidney there was found to be but little of the kidney structure left, there was simply a large sac which evidently at times filled up with urine, giving symptoms of crisis. The patient had suffered so long that she was a nervous wreck, but her recovery was good.

DR. C. GEORG, OF ANN ARBOR: I was very much interested in Dr. Witter's paper on obstruction of the ureter and I should like to relate an interesting case which I saw in the clinic, the operation being performed by one of the greatest surgeons in this country. This case was one of a young woman who had had a pus condition. She had had an operation for the relief of pus in the kidney two years before the operation that I am going to relate. At this particular time, the pus, although it had ceased to discharge, had once more commenced to cause trouble. An X-ray was made. [I am reciting this case because it shows the importance of thorough X-ray examination.] In this case, the X-ray examination showed a dilated hydro-ureter. It was dilated by a stone, so that the case was supposed to be one of stone in the ureter. The dilatation was considerable. The patient was prepared for operation an incision was made in the lower portion of the abdomen over the ureter to remove the stone. The stone was located in the lower third of the ureter, not very far from the bladder. Incision was made down to the stone and the stone was removed. It was a very large stone. In handling the ureter, the operator accidentally ruptured it at its entrance into the bladder. Of course, this was a very serious complication in a pus case, but he clamped the ureter at its entrance into the bladder and then tied it off with catgut. He then decided to remove the affected kidney from that side, so the patient was turned over and the field was prepared with iodine. An incision was made over the kidney and when the operator got down to the affected kidney he found to his amazement and that of all of us who were spectators that it was a horse-shoe kidney, a condition which was not known before the time of operation. I have talked with various X-ray experts about that case and a good many say that by the proper use of ureteral injections of collargol that condition could have been diagnosed before the time of operation. The operator simply

clamped the diseased part of the kidney and removed that and sutured off the healthy portion. It shows how a man has to use good judgment in an emergency of this kind, because things often occur in an operation that are not looked for.

DR. FRANK C. WITTER, PETOSKEY: I might say that this patient was a little peculiar in that she was so young and small, so very emaciated, and the small distended kidney pelvis was so low in the abdomen, which really exaggerated conditions. One would have thought there was an enormously dilated pelvis there. I was very much surprised when on opening behind—of course, there was no collection there then—that there was no very great distention of the pelvis and no great distention of the tissues. Before we started the functional tests, we thought there might be considerable destruction. I really did not expect to have to remove the kidney. But under conditions where there is destruction of the kidney tissue or where the pelvis of the kidney does show more dilatation. I think it is better to take out the kidney entirely.

In regard to the flap, it was merely a flap twisted over from the capsule of the kidney to cover the line of suture. In doing any work on the kidney pelvis to remove stone, or for enlarging a constriction, I simply split it and sew it up so that the line of suture is in an opposite direction from the split which widens the area. There was not enough destruction of tissues to warrant removal of the kidney. I have followed up the case for a year and there has been absolutely no recurrence of the trouble.

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THE RELATION OF HYSTERIA TO OTHER DISEASES.*

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The disease which has afforded the widest scope for errors and has covered a multitude of sins is hysteria. This striking fact is explained

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by the circumstance that while hysteria is a very definite disease and arises from very definite causes, being associated with other nervous diseases or diseases other than those of the nervous system, it conceals the nature of the physical symptoms of the disorder with which it is associated and vice versa. Naturally the question arises what is hysteria and how can its symptom-complex be definitely differentiated from that of other diseases? There are many theories.

In part at least are the teachers of the subject and the authors of books on neurology and psychopathology responsible for many of the errors in the diagnosis of the disease.

In reviewing the more recent books on the subject, I have selected paragraphs from one which I regarded as the most definite and of the most value to the physician as a basis for diagnosis. I quote as follows: "Hysteria is a disease of the mind which finds its manifestations less in intellectual disorders than in changes of character and mood and which conceals its intimate nature behind an almost unlimited number of physical symptoms."

The disease commences in youth at the time of puberty and the years immediately following. The germ of the disease is very often congenital and inherited. Direct heredity is very common. The children of hysterical mothers are either hysterical from birth or they inherit so marked a predisposition that any shock to the nervous system may cause the disease to develop.

The definition, the psychological analysis and the neurological limitations of hysteria are associated with very great difficulties, which lie partly in the nature of the affection itself and partly in the fact that it is often combined with other neuroses especially neurasthenia and other psychopathic conditions.

Then the author quotes other authorities as follows: "Charcot and his pupils regard hysteria as always being an inherited disease, all other factors having merely the significance of 'Agents provocateurs,' i. e. exciting causes which rouse the latent disease but which could not create it." Further he quotes: "Babinski; It is an abnormal mental condition which manifests itself by primary phenomena and secondary or accidental symptoms. The anomalies chiefly involve the sphere of the emotions and consists in a lack of proportion between the intensity of the stimuli and the strength of the sensory reaction."

Then follows the description of numerous symptoms as is customary in all the books; which may or may not occur, among these as

the most frequent are mentioned: spasmodic laughing and weeping, exaggerated suggestibility, auto-suggestion, excitability or indifference to painful stimuli; lack of control of outward expressions of the emotions, instability of character, etc., while in fact these signs are not so common, are more variable than would appear from the description in the books nor would the presence of any one of them or even a group of them establish the diagnosis of hysteria.

Whether we have before us the familiar type of patient who is stubborn or refractory, whose illness seems to be produced by pure wilfulness and the patient who is hypersuggestible and whose disorder seems to be a matter of simulation and lastly the patient who actually seems to be a deliberate malingerer, makes little difference and although apparently an unsolvable chaos, the physical stigmata will unquestionably determine whether or not we are dealing with hysteria. While none of the above mentioned psychic stigmata (perverseness, wilfulness, simulation and malingering) represent justifiable conclusions, nevertheless the feature common to all types indicated is that of a manifest resistance against recovery.

However much the patient may protest to the contrary, there is a mental force striving against the idea of health, differing in this from any form of organic disease, it is a rule without exception. On the other hand a patient suffering from disorders which are liable to be confused with hysteria (manic depressive insanity, dementia praecox, neurasthenia) are as a rule strikingly free from the physical stigmata of hysteria.

In treating of the diagnosis of hysteria the books are largely concerned with the psychic stigmata of the disease, and relate little with reference to constant physical signs but dwell at length on the accidental physical conditions which are variable and in themselves often deceiving. For this reason the opinions of physicians are at wide variance as to what constitutes the pathognomic symptom-complex of hysteria.

To answer this question satisfactorily I will place before you the statistics gathered from 800 cases of hysteria admitted to the Neurologic clinic of the University Hospital, as they came under observation and were disposed of with the final diagnosis of hysteria. Many of these were of course associated with organic disease of the nervous system and more often with disease of other organs.

The psychic stigmata were as a rule indefinite and variable and it was in most of the cases difficult to determine where to draw the line between the normal and the abnormal. The accidental conditions were apparent to the patient and formed the chief complaints in the majority of the cases and could be brought under the following heads:

Amblyopia 3, aphasia 5, ataxia 2, backache 233, contractures 15, convulsions 38, deafness 9, diplopia 2, hemianaesthesia 42, hemiplegia 18, monoplegia 11, paraplegia 7, arthralgia 12, neuralgia 17, tremor 24, indefinite (pain in abdomen, nervousness, irritability, hyperemotional and mental depression) 362.

It is evident that definite accidental conditions are present in only a small proportion of the cases, about 25 per cent. In the other 75 per cent. they were not characteristic and might have been indicative of variable organic diseases.

The more definite and more constant physical stigmata: anesthesia of the conjunctivae, Graves sign, inframammary, inguinal and spinal circumscribed tender zones were present in all cases. In about 75 per cent. of the cases the whole group was demonstrated and in the remaining 25 at least three of the stigmata were found. Hysterogenic zones on both sides of the spine were demonstrated in about 40 per cent. of the cases. Hyperaesthetic zones were frequent (48%) and were sometimes identical with the hysterogenic zones. Anesthetic areas were almost constant (99%) in some parts of the body.

Among the 800 cases there were about seventy cases of hysteria in childhood, in all of them the disease was monosystematic, at least one symptom was so apparent that it overshadowed all other manifestations, and it is rather rare to observe a more or less complete symptom-complex in children before the age of ten years. The ages of these children were from five to ten years. The analysis revealed that constant physical stigmata were present in all of the cases. In a great majority there was anesthesia of the conjunctiva of one or both eyes associated with circumscribed areas of anesthesia and hyperesthesia; inframammary, inguinal or spinal.

Hysteria in childhood is not materially different from that occurring in the adult and in the adult it is a persistence of the disease in childhood in the majority of cases and its association with other diseases is purely accidental, although the type of disease with which it is associated may in a measure determine the

symptom-complex of the hysteria, i. e. some of the symptoms of the organic disease may form the psychic model for the physical expression of the hysteria, so that after the organic cause is removed some of the symptoms due to it may persist on a psychic basis. On the other hand and not infrequently the hysteria does not manifest itself until the patient is relieved of the organic disease. This is most common after surgical treatment.

The importance of determining definitely whether or not a patient is suffering from hysteria before stating the prognosis is apparent. If this is neglected, especially in operative cases, the patient and also the physician will be sadly disappointed in the result, and the physician's professional reputation will be at stake. You may draw your own conclusions from the foregoing study of 800 cases as to the pathognomonic signs of hysteria. I would not advise you to depend on the history of the case upon which the books usually lay considerable stress nor on the accidental symptoms alone. While some of these (hemiplegia, monoplegia, paraplegia, etc.) are peculiar *per se* and can be easily distinguished from the organic types, the majority of accidental conditions are indefinite and not characteristic.

It may be of interest to know that in the 800 cases of hysteria there were but seventy-eight males. There were twenty-two different forms of organic disease noted, in none was there a direct relationship between the organic disease and the hysteria except for the psychic influence already mentioned. Thirty-one presented themselves after operative treatment for disease of the pelvic organs. The majority of the cases continued to have pain in the inguinal regions and in the lower part of the back or abdomen.

In describing the cases, for the sake of brevity, I will mention only the positive findings or such conditions that may be of specific interest.

One patient of particular interest, a woman 42 years old, developed convulsions after an operation for lacerated cervix and perineum. She had these seizures at frequent intervals. The Wassermann test on the blood was positive and it was suspected that the seizures, although typical hysterical convulsions, might be due to cerebro-spinal lues. A lumbar puncture was made and the spinal fluid was found to be normal.

The neurological examination showed normal pupils and no extraocular palsy, no nystagmus and no eye fundus changes. The station and gait were normal, the tendon reflexes were all

increased but equal on both sides. The plantar reflex was normal on both sides. The conjunctiva were anesthetic, Graves sign was present on both sides and there was marked inframammary in inguinal tenderness on both sides, also spinal tenderness in the mid-thoracic and sacral regions. She made a good recovery after several weeks rest and isolation. She was also treated for syphilis. The diagnosis of hysteria with a leutic infection was established.

There were eight cases associated with neuresthenia. One case with spastic paraplegia due to syphilitic meningo-myelitis. Retrobulbar neuritis one. Brachial neuritis one. Facial hemiatrophy one. Sciatic neuralgia one. Appendicitis five; two of these I wish to mention in detail.

The patient, a single woman 30 years of age, came under observation October 10, 1914, complaining of gaseous and fluid eructations after meals and frequent attacks of nausea and vomiting. About once a week she had chills and some elevation of temperature. This condition extended over a period of eleven years. For eight to ten years she had suffered from constipation. In 1903 she had an attack of severe pain in the right inguinal region with nausea and vomiting. Her condition at this time was diagnosed appendicitis and she was successfully operated for this condition but the symptoms of which she complained continued. She had at more or less regular intervals attacks of pain in the right inguinal region with nausea, vomiting and constipation. She restricted her diet to the simplest food but found no relief. The physical examination of the patient revealed nothing of importance. She was well nourished in spite of the marked physical disturbance. The result of the neurological examination was as follows: The conjunctivae were anesthetic, the areola of both breasts were anesthetic to touch, hyperesthetic to pin point. There was marked inframammary tenderness on both sides. In both inguinal regions there were sharply circumscribed hyperesthetic areas, very painful on pressure. In the mid-thoracic and lower lumbar regions there were zones very painful on pressure. Otherwise the examination was negative. The diagnosis of hysteria was made and the patient treated accordingly, making a complete recovery.

A second patient suffering from pain in the stomach region and in the lower part of the abdomen. She was examined August 10, 1914. A young woman, 24 years old, who had not been well since her fourteenth year. During this period she had suffered from constipation, attacks of vomiting, loss of appetite and insomnia. In July, 1913, she had an abdominal operation for the purpose of determining the condition there and she was told that there was an intestinal stasis. The appendix was removed. She recovered promptly from the operation but was not relieved of her symptoms, after the operation her menses became irregular, once in two or three months and during the following year she was more or less confined to her bed.

Examination.—The conjunctivae were anesthetic and there were inframammary circumscribed areas of hyperesthesia, very painful on pressure, anesthesia and hyperalgesia of the areola mammae, marked inguinal tenderness on both sides, circumscribed inguinal hysterogenic zones, and a number of such zones on both sides of the spine located in the mid-thoracic and upper lumbar regions. There was no abdominal tenderness except in the zones just described and the physical examination was otherwise negative. This patient was treated for hysteria and made a complete recovery.

One case of Pott's disease. One of anterior poliomyelitis, one associated with renal colic due to kidney stone. One case of pernicious anemia. One of congenital syphilis. Three cases of hemiplegia due to cerebral hemorrhage. One of dementia praecox. All associated with hysteria.

There was one case of diphtheria of special interest.

The patient, a woman 35 years old, unmarried, was a stenographer by occupation and held a responsible position until six years ago when she was taken with a severe attack of diphtheria. She was confined to bed for four weeks. At the end of this time she had apparently recovered. About a week later she had difficulty in swallowing. A few days later she was unable to void urine and had difficulty in walking. The paralysis of the throat lasted about five weeks but the weakness in the lower extremities increased until the paralysis was quite complete. The difficulty in urinating improved but slightly.

When she came under observation six years later she complained of difficulty in walking and in voiding urine. She was catheterized once a day since the beginning of the trouble. She was able to void small quantities of urine but could not empty the bladder.

Family History.—The father, mother and one sister are said to have died of heart disease. The patient has always been nervous but aside from the ordinary diseases of childhood she had no serious illness until she contracted diphtheria six years ago. She was treated with antitoxin.

Examination.—The patient was well nourished and looked well. She is 5 feet 4 inches in height and weighed 155 pounds. There was no deformity of any kind. The heart and lungs were normal, the blood pressure was 130. The abdominal organs were apparently without pathology. The urine examination was negative and from all indications she had been treated very carefully.

She was unable to get up from the sitting or recumbent position without aid and was unable to stand or walk about, but was able to move the lower extremities when lying down, although there was considerable rigidity. The facial expression and manner were not peculiar and she did not appear nervous. The pupils were equal and reacted normally and the extraocular muscles were normal. There was no paralysis of the face, tongue or throat and no disturbance of motion of the arms and hands. In the lower extremities passive move-

ments were antagonized by the opposing muscles so that it was difficult to flex or extend the legs or thighs. The feet were usually in a position of plantar flexion. There was no atrophy or weakness in the lower extremities. The elbow-jerks were prompt and equal on both sides. The knee-jerks were diminished but equal on both sides. There was no disturbance of the sense of touch over the lower extremities. Pin prick was not painful over the outer side of the legs. There was marked hyperesthesia over the lower part of the abdomen and buttocks and there were inguinal, inframammary and spinal hysterogenic zones and dissociation of sensation of the areola mammae. The conjunctivae were anesthetic. The umbilical reflex was normal, also the plantar reflex was normal on both sides.

From the neurological findings it is at once apparent that the paralysis was not due to a diphtheritic neuritis and that a pre-existing hysteria was the basis for the present disturbance. The books usually state that disturbance of the bladder does not occur in diphtheritic paralysis but it has been observed in a number of cases in my experience. In this case it was no doubt in the beginning due to the acute disease but later on an accidental condition of the hysteria. The diphtheritic paralysis eventually formed the model for the physical expression of the psychic disorder. The patient made an uneventful recovery.

Two cases of hyperthyroidism with persistent vomiting which I will relate.

A young unmarried woman, 23 years old, presented herself for treatment complaining of vomiting without nausea.

She gives a neuropathic family history. She had diphtheria at the age of 10 years and made good recovery. At the age of 16 she developed an enlarged thyroid and a year later became nervous suffering from insomnia, palpitation of the heart, tremor of the hand, and exophthalmus, also nausea and vomiting. At the age of 18 she was operated for the removal of a portion of the thyroid gland and again at 19.

After this she was relieved of the palpitation of the heart, the tremor of the hands, the eyeballs receded. At the age of 20 she had an abdominal operation. The appendix and left ovary were removed. At that time she had pain in the inguinal regions, headache and irregular menstruation, also attacks of vomiting about three times a week. The vomiting stopped after the operation and for two years she was quite well, but about a year ago she was taken with nervous spells in which she falls down and becomes unconscious. After these attacks she vomits. The attacks come on about once in two weeks. Now the vomiting occurs during the intervals and in the past three weeks she has vomited after every meal. The patient thinks she has lost about ten pounds, in weight, but during the first three weeks she was under observation she gained in weight, although the vomiting after each meal continued during this period.

Examination.—The patient looks well. There were no stigmata of hereditary lues and no stigmata of deviation. She seemed quite content and hopeful. She is 5 feet 4 inches in height and well developed.

The pupils were equal and reacted normally to light and in accommodation. The extraocular muscles were normal, the tongue protruded straight without a tremor. There was no tremor of the lips, no facial palsy, a fine tremor of both hands on extension but no inco-ordination of the hands. Station and gait were normal, the knee and Achilles jerks were equal and normal and plantar irritation caused plantar flexion on both sides.

She feels pin prick more distinctly on the left side of the body than on the right. This extends directly to the median line. The conjunctivae were anesthetic. There was marked inframammary and inguinal tenderness on both sides, anesthesia and hyperalgesia of the areola papillaries.

The points of interest in this case are that the hysteria became more active after the organic condition was relieved, that one of the original symptoms persisted throughout the illness but changed in character from nausea and vomiting to vomiting without nausea, that all of the other symptoms disappeared and new ones occurred and from their character it is evident that a latent hysteria became active.

The patient was placed in bed in complete isolation without food until she herself realized that she could retain what she ate. After a period of seven weeks she was discharged well.

CASE II. Another patient, a young woman, single 30 years old, presented herself for treatment after a thyroidectomy which took place two years ago. Prior to the operation she complained of palpitation of the heart, tremor of the hands and nausea and vomiting in the morning upon arising, also was generally weak and her eyes were prominent. After this time she complained of nausea on arising in the morning. She has headache and pain in the left inguinal and both inframammary regions.

The examination of the patient revealed the following conditions: The mother died suddenly supposedly of heart disease at the age of 40. One sister died in infancy of convulsions. The patient had diphtheria at the age of 11 and typhoid fever at 18. She was then well until three years ago when her thyroid gland enlarged rapidly, her eyes became prominent and she suffered from dyspnea, she also had a marked tremor of the hands and she was generally weak.

The patient was fairly well nourished and physically well developed, had a worried expression and nervous manner. The eyes were prominent but otherwise normal. The thyroid gland was not enlarged, in fact, it could not be palpated. There was a small scar in the region of the thyroid in the median line. She had a fine tremor of both hands. Her station and gait was normal. The tendon reflexes were all normal, also the skin reflexes. The pharyngeal reflex was lost and the conjunctival reflex was also lost.

The conjunctivae were anesthetic. There was marked inframammary tenderness on both sides, dissociation of sense of touch and pin point of the areola papillaris. Inguinal tenderness on both sides and tender zones in the upper thoracic and

lower lumbar regions. Her pulse was 80 per minute, temperature 98.6 Deg. F. Blood pressure 125. From the above I knew she was suffering from hysteria but was not quite certain of the absence of hyperthyroidism. She was given five grains of thyroid extract three times daily, put in bed and completely isolated. On the third day her pulse was 128 per minute and she complained of suffocation. She was extremely restless and vomited several times a day. On the sixth day the thyroid was discontinued, the pulse rate diminished, the motor restlessness disappeared and the vomiting became less. The rest treatment was continued and she was given the Elix. Amon. Valerianate. In six weeks the patient was discharged minus her symptoms.

In two cases of tetany the stigmata of hysteria were very marked and are of diagnostic interest.

CASE III. A woman, 27 years old, married and has five children who are living and well. The family history is not of interest. Aside from the ordinary diseases of childhood she was well until the present trouble came on five months ago, following childbirth.

She has attacks which are initiated by paresthesias in various parts of the body. Then her eyes became fixed, the forearms and hands are rigidly pressed against the thorax, the thumbs adducted, the proximal phalanges flexed, the distal extending, the legs rigid in extension, the feet fixed in a position of talipes, equino varus accompanied with severe pain in the extremities. The attacks lasted from fifteen to thirty minutes.

The examination revealed the following: She was well nourished, her voice was weak and she appeared somewhat confused having just recovered from one of the attacks. The thyroid gland was enlarged and the post-cervical, inguinal and femoral lymphatic glands were easily palpable. There was a fine tremor of the tongue when protruded and a fine tremor of both hands on extension. At this time there was no rigidity in the extremities or the muscles of the neck and back. The biceps and triceps jerks were very prompt on both sides, the knee and Achilles jerks were increased on both sides. There was no Babinski sign. The Chvostek sign, Trousseau sign and Erb's phenomena were all present. The conjunctivae were anesthetic. There was marked inframammary tenderness on both sides and dissociation of sensation of the usual type, inguinal tenderness on both sides and hysterogenic zones of the back, thorax and abdomen.

The patient had several attacks each day for several days before she was treated. She was given fifty grains of calcium chloride intravenously which relieved her promptly of the seizures and with this the characteristic neurological signs of tetany disappeared. The patient left the hospital apparently cured, but returned four weeks later with seizures of an entirely different character. In these attacks the patient was apparently unconscious which was

not the case in the other seizures. She became rigid all over, extremities in extension and back arched. These attacks were of longer duration. The stigmata of hysteria persisted but there were no signs of tetany. She made a complete recovery under the usual treatment.

CASE IV. Another patient whose condition is interesting in this connection is a young married woman, 31 years old, complained of pain in the stomach region nausea and vomiting, and rigidity in the extremities. While under observation she developed attacks which came on with numbness in the extremities, then the arms became rigid in extension, slightly abducted from the body, complete extension at the elbows, the fingers in the obstetric position, the wrists extended. The legs rigid, slightly adducted, the knees extended, feet fully extended. This rigidity could not be overcome by passive movements without extreme pain.

The patient's family history is not of interest. She said that five years ago she had tuberculosis and was cured by sleeping out of doors. In 1902 she had an operation for the removal of an ovarian cyst. Part of the ovary was removed the ligaments were shortened and the anterior fixation of the uterus was done. In 1903 she had an appendectomy and panhysterectomy. Five years ago she began to vomit after each meal. These attacks lasted about a week, each accompanied by severe pain in the stomach region. Later they came on at irregular intervals, sometimes one or two months apart. In the past four weeks she lost about twenty pounds.

The physical examination was entirely negative. The stomach analysis revealed nothing of importance. The examination of the blood and urine were also negative.

The neurological examination revealed the usual stigmata of hysteria. There was no Chvostek or Trousseau sign and Erb's phenomena was not present. The diagnosis was in doubt owing to the tetanoid seizures. Yet they were not very different from the seizures we often observe in hysteria. The gastric symptoms were not unlike those accompanying gallstones or possibly gastric ulcer. The patient left the hospital unimproved but returned for an operation for gallstones. An exploratory operation revealed that there were neither gallstones nor gastric ulcer. It was certain that she had hysteria but from the neurological findings we could not prove the other suspected conditions.

A case of otitis media and mastoiditis associated with hysteria presented points of interest.

CASE V. A woman, 38 years old, married, but has had no children. She complained of pain in the right occipital region.

The family history was negative, as to neuropathic or psychopathic conditions.

Twelve years ago the patient was injured in a runaway. She was badly bruised in various parts of the body. Following this she became very nervous

and had attacks of dizziness, numbness in the hands and feet. Three years ago she had a gynecologic operation. Immediately following this operation she was more nervous and all of her symptoms became more pronounced from which she had not recovered when she came under observation.

Eight weeks prior to her admission to the hospital she developed an otitis media and acute mastoiditis on the left side but made a prompt recovery following a mastoid operation.

Since then she has been very nervous and about two weeks ago she began to have pain in the right mastoid region which gradually increased in severity. She developed night sweats and became tired and exhausted. There was marked tenderness on pressure on the right occipital protuberance, also just below the right ear. She also had dizziness at this time with pressure in the right occipital region, and at times nausea and vomiting. About a week after the onset of the pain she had an attack of numbness and paralysis involving the left arm and the left lower extremity. This passed away entirely in about an hour but later she found it a little difficult to use her left hand.

The patient had a second mastoid operation, this time on the right side. The mastoid cavity was found to be clear and smooth and the right ear was normal, showing that the mastoiditis on the right side was psychic in character dependent upon a pre-existing hysteria, as will be seen presently. The operation brought but temporary relief.

Examination.—The patient was well nourished. Behind the left ear she had a scar which was tender on pressure and the left ear showed the result of a radical mastoid operation. There was also an operation scar back of the right ear. The right ear was negative. There was marked tenderness on pressure over the right mastoid process.

There was a nystagmus on lateral deviation of the eyes but none on looking upward or downward. There was disturbance of taste of the anterior part of the tongue but normal on the posterior part of both sides.

The conjunctivae were anesthetic. There was marked inframammary tenderness on both sides. Light touch was not perceptible in the areola papillaris on either side, but pain sense was exaggerated on both sides. There was also marked inguinal tenderness on both sides and pain on pressure in the upper thoracic and upper lumbar regions. The post-pharyngeal wall was anesthetic and the pharyngeal reflex was absent. The tendon reflexes were all normal. There was no weakness in the arms or in the lower extremities. The patient was now treated for the nervous disease and made a good recovery.

Another case of interest which I will mention briefly is one associated with tonsillectomy.

CASE VI. A woman, 31 years old, unmarried and apparently in good physical health, complained of distress in the throat, sometimes a pain, at other times a feeling of fullness and burning. About a

year ago she had her tonsils removed on account of frequent attacks of tonsillitis.

The history revealed that her mother was a very nervous woman, she died two years ago of pneumonia. Aside from the ordinary diseases of childhood the patient was always well except that she had tonsillitis each winter for several years in succession but made an uneventful recovery from each attack. A few months after the last attack she had a tonsillectomy under a local anesthesia. Surgically her recovery was prompt but she did not recover from the psycho-sensory impression she received at the time of the operation which became very troublesome. She became sleepless and melancholy.

The physical examination revealed nothing of interest, but there were some interesting neurological findings which I will state briefly. The throat appeared normal but there was complete anesthesia of the post-pharynx, the tonsillar pillars, the uvula and soft palate and a portion of the hard palate. The pharyngeal reflex was absent, also the conjunctival reflex was lost. There was anesthesia and hyperalgesia of the areola mammae, marked inframammary and inguinal tenderness on both sides and a number of hysterogenic zones over the spine. The diagnosis of traumatic hysteria was made and the patient recovered under the proper treatment.

The symptoms of multiple sclerosis are at times difficult to differentiate from hysteria. There was one case of interest from this standpoint.

CASE VII. The patient, a woman 32 years old, complained of earache, blurring of vision, a speech defect, dizziness and at times unsteady gait. She stated that her father died young of heart trouble and she herself had never been strong. When she was 4 years old she had scarlet fever with a protracted recovery. A short time after this it was noticed that she was somewhat deaf and had difficulty in speaking certain words. This speech defect became more marked. Her speech was slow and halting. In May, 1908 she first noticed a twitching of her eyes and a muscular twitching in various parts of the body. She also had a fine tremor of the hands, became awkward and often objects dropped out of her hands, her gait became unsteady at times, dizziness and headache were frequent, sometimes accompanied by nausea and vomiting.

The physical examination revealed nothing abnormal. The patient was well nourished and there were no physical signs of deviation or congenital syphilis.

The neurological examination is of interest. The pupils reacted normally to light and in accommodation. There was a spontaneous nystagmus but no extraocular palsy. There was no paralysis of the face but a marked intention tremor of the lips and tongue, also a well marked intention tremor of both hands with inco-ordination of the hands and muscular weakness in both arms and hands. The gait was unsteady but not characteristic, the station was

normal. The elbow-jerks were increased, also the knee-jerks were increased. There was a well marked ankle clonus on both sides, the plantar reflex was normal on both sides, as was the umbilical reflex.

The conjunctivae were anesthetic, so was the post-pharyngeal wall and the pharyngeal reflex was lost. There was anesthesia with hyperalgesia of the areola mammae, inframammary and inguinal tenderness on both sides and spinal tenderness in the upper thoracic and mid-lumbar regions.

The ophthalmological examination showed paling of the disc in both eyes and multiple scotomata in the visual fields. Her speech was slow and halting, her hearing diminished in both ears. The Wassermann test on the blood serum and spinal fluid was negative.

The patient was treated by absolute rest and isolation. At the end of six weeks she was free from headache, nausea, vomiting, dizziness, staggering gait and the speech defect less marked. The nystagmus and the increased tendon reflexes persisted, also the blurring of vision and deafness. She was able to return to her occupation which is teaching, and is carrying on her work with little difficulty, and has done so for a year.

It is evident here that many of her symptoms were due to hysteria and those due to the multiple sclerosis were exaggerated by the hysteria.

Of course we must not overlook the fact that there are marked remissions of all the symptoms in multiple sclerosis and sometimes for a considerable period but there is no doubt of the hysteria in the case owing to the physical stigmata and the apparent permanent relief of some of the most distressing symptoms.

In the management of hysteria we must bear in mind that it is not a physical disease and to treat the disorder as a physical ailment is radically wrong. In the majority of cases one is able to demonstrate a certain endogenous predisposition. But in studying the personality

of the patient's family, as well as the general environment of her childhood, the endogenous predisposition does not appear so prominent as a causative factor of hysteria. Many times the neuropathic disposition is an acquired complex of nervous manifestations, the result of environment. However this may be, it is true that the resistance of individuals to outside influence is just as variable as their external appearance, so the effect of psychic or physical trauma is dependent upon the extent to which the individual is made actively to reproduce changes in his mental processes resulting in a pathologic reaction.

From the nature of the disease it is evident that the treatment must be psychotherapeutic and from the very beginning the patient should be made to realize the true state of affairs, that the symptoms are dependent upon a psychic state and that the treatment is not drugs, electricity, hydrotherapy or massage but mental re-adjustment. This is most easily accomplished by long conversation with the patient at definite intervals bringing to the conscious mind the full realization of the mental factors active in the causation of the symptom.

Many of these patients have become mentally and physically tired from the years of treatment—drugs, electricity, travel and the strenuous life of the sanitariums, that the monotony of complete rest and isolation is not only conducive to sleep but also an agreeable and valuable adjunct to the psychic treatment making the environment most favorable to concentration, attracting more constant attention to the present situation.

Hydragogin.—The Council on Pharmacy and Chemistry reports that Hydragogin (C. Bischoff & Co.), advertised as a "most wonderful diuretic and cardiac tonic," is a shotgun mixture of semisecret composition, marketed under a therapeutically suggestive name and advertised by means of unwarranted therapeutic claims. Hydragogin is said to be a preparation of digitalis, strophanthus, squill and a saponin. The report explains the objection to the administration of digitalis and strophanthus in fixed proportion because of the varying rates of absorption and excretion of these two drugs. It further cautions that since digitalis bodies must often be given to the point of beginning toxic action in order to obtain the full therapeutic effect, it is

obvious that the administration of a mixture of digitalis, strophanthus, saponins and squill is especially liable to induce serious toxic effects which cannot be distinguished of the disease (*Jour. A.M.A.*, Sept. 4, 1915, p. 894).

Williams' Syrup of Malt.—The Council on Pharmacy and Chemistry reports that Williams' Syrup of Malt is ineligible for New and Nonofficial Remedies because it is an official article marketed under an unofficial title; because unwarranted therapeutic claims are made for it, and because the claims made are apt to lead the public to depend on it as a curative agent in serious diseases (*Jour. A.M.A.*, Sept. 4, 1915, p. 895).

The Journal

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November

Editorials

POISONOUS FLY PAPERS.

A year ago, in discussing this subject editorially, we gave a partial report of the cases of arsenical poisoning of children from accidentally consuming the contents of fly destroying contrivances during the summer of 1914. It was gratifying to note the number of medical journals that reprinted our editorial or commented upon the subject. The discussion was evidently a timely one.

For the summer of 1915 we have been able to secure the reports of the following cases:

Month	No.	Fatal	Recovery	Recovery
			Indicated	Doubtful
May	1	1		
June	2			2
July	5	2	2	1
August	14	5	8	1
Totals	22	8	10	4

These cases were reported by the daily press as occurring in the following states: Georgia, 1; Illinois 6; Indiana 2; Iowa, 2; Massachusetts, 2; Michigan, 2; Missouri, 1; Nebraska, 1; New York, 1; Oklahoma, 1; Ohio, 1; Pennsylvania, 2; a total of twenty-two cases. This report must necessarily be considered as very incomplete and but an indication of the possible extent of a wholly preventable danger.

We again point out the fact that the symp-

oms of arsenical poisoning are very similar to those of cholera infantum and that undoubtedly a number of the cases of cholera infantum that occurred were really cases of arsenical poisoning, and death if occurring, was attributed to the fact. The cases reported were of children ranging in age from 1 to 6 years. These little patients are not old enough to tell what they have taken when questioned as to their illness and unless they are seen consuming the fly poison the actual cause of their sickness or death is overlooked and the fatality ascribed to cholera infantum or to some other similar causes and the error in diagnosis goes undetected.

We repeat, arsenical fly destroying devices are dangerous and should be abolished. Health officials should become aroused to prevent further loss of life from their source.

Our Michigan Legislature, this last session, passed a law regulating the sale of poisonous fly papers. Similar enactments should be secured and enforced in every state in the Union.

THE WAYNE COUNTY MEDICAL SOCIETY—HISTORICAL SKETCH.

The Wayne County Medical Society as now constituted is a branch of The Michigan State Medical Society and the product of an evolution beginning in 1846 with the organization of "The Sydenham Society" of which Dr. Charles N. Ege was President. After a couple of years, this Society disbanded and on April 14, 1849, was formed "The Wayne County Medical Society" as a branch of the Michigan State Medical Society, having all the rights and obligations of that body. Disbanded in 1851 by the repeal of the laws under which it existed, it was followed by The Detroit Medical Society, May, 1853, whose first president was Dr. Morse Stewart. After an active career of about five years, it disbanded in March, 1858. From this date till 1866 there was no local medical society in this country. On May 31, 1866, there was formed the second Wayne County Medical Society. Its first president was Dr. Zina Pitcher; Vice Presidents, Drs. G. S. Armour and E. P. Christian; Secretary, Dr. H. F. Lyster; Treasurer, Dr. L. H. Cobb; meetings held quarterly. Early in 1876 it adjourned, *sine die*.

On August 21, 1876, the third Wayne County Medical Society, having been organized under the Presidency of Dr. William Brodie, was in-

incorporated under the laws of the State of Michigan.

Having amended its Constitution and By-Laws so as to conform to those of the State Society, it applied for and received a charter as a branch of that body on August 15, 1902, under the Presidency of Dr. Samuel Bell.

At this time there combined with it that branch of the profession which separated from it in 1876 and conducted successfully operations through the Detroit Medical and Library Association and the Detroit Medical Society. Besides it received the hearty support of the several medical clubs of the city. In fact the members of the latter were most active in promoting the unification of the profession of the county as a branch of the State Society. The names of these clubs are the Detroit Academy of Medicine (1868-1915); the Quarter Century Medical Club (1902-1915). Into it went the training of The Detroit Obstetrical and Gynecological Society (1884-1897) and The Michigan Surgical and Pathological Society (1891-1899). Since the first state society (1819-1851) served all the purposes of a county society in Wayne, the present organization may fairly be said to have begun in 1819 and with slight interruptions continued its evolution to the present, a period of ninety-six years. Under its own name the Wayne County Medical Society began operation sixty-nine years ago. Drs. George B. Russell and Peter Klein, and Morse Stewart, took an active part in the earliest of these stages of development.

The Wayne County Medical Society as now constituted differs from all its predecessors in that: 1. It aims to gather into its ranks every reputable practitioner within Wayne County; 2. It is the only door to fellowship with the other county medical societies throughout the state, such county medical societies being the units which constitute the Michigan State Medical Society; 3. It is the only means by which a Wayne county physician can either secure or maintain fellowship in the American Medical Association or any of its branches; 4. It presents an intelligent method for bettering the condition and promoting the development of the profession and its individual members in Wayne county.

On December 3, 1906, the Constitution was amended so as to make the Defense League, which was previously composed of only a part

of the members of the Society, an integral part of the Society.

The Defense League in connection with the Wayne County Medical Society was a success from the beginning and not only met with favor with the members of the local society but so appealed to the members of the Michigan State Medical Society that on January 1, 1910, the State Medical Society took over the Defense League of the local society and made it a part of the Constitution of the Michigan State Medical Society and it exists to the present time.

In the year of 1902 and 1903 the first "Wayne County Medical Bulletin" was published. Then for a space of six years the Bulletin ceased to exist. In 1909 the officers could see the necessity of having some means of communication with the members of the Society and so "The Wayne County Medical Society Weekly" was published and is still being published at the present time.

Early in 1910 sufficient enthusiasm had manifested itself in the members of The Wayne County Medical Society to encourage the election of a Board of Trustees and the authorizing of them to purchase a society building, which was to be paid for by popular subscription among the members. The Society, in order to own property, was incorporated by the Board of Trustees and on September 1, 1910, the first meeting was held in their present quarters (33 High St. E.) Owing to the increase of membership to over 600 in 1913, it was plainly evident that larger quarters for a meeting place were needed very soon, so the Trustees were authorized by the members of the Society to proceed with the construction of an auditorium at the rear of the present building to cost not more than \$30,000, which they did and the first meeting was held in it February 2, 1914.

In the spring of 1914 the members of the Wayne Medical Society thought that the constitution and by-laws should be studied with the idea of making such changes as would be for the betterment of the Society.

A committee of five was appointed by the President. In the fall of 1914, the committee made their report in which they recommended several changes in the constitution and by-laws and with a few minor changes these recommendations were adopted.

OFFICERS OF THE WAYNE COUNTY MEDICAL SOCIETY.

YEAR	PRESIDENT	VICE-PRESIDENT	SECRETARY	TREASURER
1876-7	William Brodie.....	E. P. Christian.....	W. H. Rouse.....	G. R. Richards.....
1877-8	William Brodie.....	P. Klein.....	W. H. Rouse.....	G. R. Richards.....
1878-9	William Brodie.....	P. Klein.....	W. H. Rouse.....	G. R. Richards.....
1879-80	William Brodie.....	P. Klein.....	W. H. Rouse.....	G. R. Richards.....
1880-1	Peter Klein.....	E. S. Snow.....	J. J. Mulheron.....	G. R. Richards.....
1881-2	William Brodie.....	Geo. R. Richards.....	J. J. Mulheron.....	W. H. Rouse.....
1882-3	William Brodie.....	Geo. R. Richards.....	W. H. Rouse.....	E. S. Snow.....
1883-4	William Brodie.....	Geo. R. Richards.....	W. H. Rouse.....	E. S. Snow.....
1884-5	C. C. Yemans.....	J. J. Mulheron.....	W. H. Rouse.....	C. A. Devendorf.....
1885-6	C. C. Yemans.....	Wm. C. Gustin.....	W. H. Rouse.....	C. A. Devendorf.....
1886-7	William Brodie.....	H. F. Lyster.....	W. H. Rouse.....	C. A. Devendorf.....
1887-8	Geo. R. Richards.....	Hal. C. Wyman.....	B. P. Brodie.....	J. J. Mulheron.....
1888-9	C. Henri Leonard.....	D. L. Dakin.....	B. P. Brodie.....	J. J. Mulheron.....
1889-90	C. Henri Leonard.....	O. P. Eaton.....	O. S. Armstrong.....	Thos. Henderson.....
1890-1	J. J. Mulheron.....	D. L. Dakin.....	O. S. Armstrong.....	Thos. Henderson.....
1891-2	D. L. Dakin.....	O. S. Armstrong.....	James Newell.....	C. Henri Leonard.....
1892-3	O. S. Armstrong.....	James Newell.....	E. B. Smith.....	C. Henri Leonard.....
1893-4	Hal C. Wyman.....	E. B. Smith.....	R. H. Honner.....	C. Henri Leonard.....
1894-5	E. B. Smith.....	Samuel Bell.....	W. R. Henderson.....	C. Henri Leonard.....
1895-6	E. B. Smith.....	W. R. Henderson.....	F. S. Hough.....	C. Henri Leonard.....
1896-7	Geo. E. Frothingham.....	L. E. Maire.....	J. A. Patton.....	C. Henri Leonard.....
1897-8	L. E. Maire.....	A. H. Steinbrecher.....	J. H. Sanderson.....	C. Henri Leonard.....
1898-9	R. H. Honner.....	A. E. Carrier.....	W. J. Cree.....	C. Henri Leonard.....
1899-00	G. A. Kirker.....	F. D. Summers.....	W. J. Cree.....	C. Henri Leonard.....
1900-1	J. J. Mulheron.....	Samuel Bell.....	G. G. Gordon.....	C. Henri Leonard.....
1901-2	Samuel Bell.....	C. C. Yarbrough.....	Hugh Mulheron.....	C. Henri Leonard.....
1902-3	Frank Burr Tibbals.....	Chas. G. Jennings.....	Hugh Mulheron.....	Guy L. Connor.....
1903-4	Chas. G. Jennings.....	A. N. Collins.....	Guy L. Connor.....	Hugh Mulheron.....
1904-5	Guy L. Kiefer.....	Willis S. Anderson.....	W. J. Stapleton, Jr.....	W. J. Stapleton, Jr.....
1905-6	A. E. Carrier.....	Chas. D. Aaron.....	W. J. Stapleton, Jr.....	W. J. Stapleton, Jr.....
1906-7	J. H. Carstens.....	W. F. Metcalf.....	Walter D. Ford.....	Walter D. Ford.....
1907-8	A. N. Collins.....	K. Gunsolus.....	Walter D. Ford.....	Walter D. Ford.....
1908-9	W. P. Manton.....	A. H. Bigg.....	Guy McFall.....	Guy McFall.....
1909-10	A. D. Holmes.....	P. M. Hickey.....	Guy McFall.....	Guy McFall.....
1910-11	Angus McLean.....	P. M. Hickey.....	R. C. Jamieson.....	R. C. Jamieson.....
1911-12	H. O. Walker.....	B. R. Schenk.....	R. C. Jamieson.....	R. C. Jamieson.....
1912-13	E. W. Haass.....	L. J. Hirschman.....	R. L. Clark.....	F. B. Tibbals.....
1913-14	L. J. Hirschman.....	Don M. Campbell.....	R. L. Clark.....	F. B. Tibbals.....
1914-15	Don M. Campbell.....	Geo. E. McKean.....	C. E. Simpson.....	F. B. Tibbals.....

TONSIL AND ADENOID OPERATIONS
AT CHIDREN'S CLINICS OF NEW
YORK DEPARTMENT OF
HEALTH.

EXAMINATIONS AND SAFEGUARDS.

1. The child is examined by a physician to note the presence of abnormalities that demand operative procedure.
2. A complete physical examination is made to make sure that the patient is a safe subject for operation.
3. The parent or guardian is interrogated as to the presence of contagious disease in the child's family.
4. A history card is made out for each child. On this are recorded clinical notes describing the conduct and condition of the child (whether lively, cheerful or reverse), condition of nutri-

tion, appetite, intestinal functions, presence of pulmonary signs, pulse, respiratory rate and temperature, and whether the child sleeps well. A specimen of urine is collected and examined before the child is operated upon. The record shows the specific gravity, the reaction and the presence or absence of albumen as detected by the heat and acetic acid test.

5. A child is not received for operation who shows a condition of seriously lowered vitality or has any organic disease. These children are referred to a physician for treatment and are requested to return later.

6. Upon admission to the clinic, the children are undressed and bathed and put in hospital garb. Younger children are bathed by the nurse, older ones under the direct supervision of the nurse.

7. The nasal fossæ are irrigated the night of admission and again on the morning of the operation. One quart of warm normal salt solution is used for these nasal irrigations and the soft rubber hose of the douche bag is inserted into the nostrils.

8. The day preceding the operation the children are kept quiet; are made to retire at 7 p. m. in winter months and 8 p. m. in summer months; are instructed how to inhale gas, and are admonished to be brave in the operating room for the sake of the benefits that will accrue from the operation.

9. The day of the operation the children are held in the playroom, and so far as possible their minds are diverted from the operation. About 6 a. m. they receive a bowl of cereal and a glass of milk. The history cards are written up, stating how they passed the night, condition of appetite and other functions. The morning temperature is taken by rectum. If this is found to be 99.5 Deg. F. or over, with a pulse of 120 or over, a special record of the fact is made in red ink. Such children are not operated upon that day.

10. The nurse makes a special inspection of the exposed skin surface and notes on the history card the conditions found, viz., whether clear or otherwise.

11. The operating room nurse accompanies the child from the playroom to the operating room, sterilizes the instruments and sees that all paraphernalia used at the operation is clean and sterile.

12. After operation the orderly carries the child to the bed, and the ward nurse takes charge, and stays with the child until the active bleeding stops. She takes the pulse rate and respiration rate and watches for swallowing symptoms. A pulse rate of 100 to 120, of poor character, thin, irregular, with the swallowing and suggestive signs of progressive weakness and air hunger, demands the presence of the operating surgeon at once.

13. The operating surgeon and anesthetist are available for four hours after the last child has been operated on. They must remain on duty after the operation and remain in the clinic until each child may be said to be out of danger. Emergencies occurring after a four-hour interval may be referred to the anesthetist

or any other inspector on duty. The assistant director is notified at any hour of cases of serious bleeding.

14. The registrar is required to report in writing any instance where the operating surgeon or anesthetist fails or is negligent in his duty.

15. The child is kept in bed from 10 or 10:30 a. m., the time of day the operation is performed, until 7 a. m. the following morning.

16. Bedside notes and the condition of the child when discharged are recorded in full.

The Modern Hospital.

"THE GOVERNOR AND THE DOCTORS."

A REFUTATION.

Our esteemed contemporary—*The Detroit Medical Journal*—in its September issue has an editorial on the above subject, signed by Wesley Taylor. The following are selected extracts from that manifestly misinformed comment on the Tuberculosis Day that was conceived and fostered by official representatives of the State Medical Society.

"The Governor asked the physicians of Michigan to gratuitously examine the lungs of any cases which might present themselves on a certain day."

"* * * newspapers declared the results were practically worthless because of lack of system * * * and the indefiniteness of reports."

"* * * the layman was very much disappointed at the outcome."

"* * * vague and indefinite reports were the rule." "So complete and confused were the findings * * * that classification was found impossible."

"Those who fostered the scheme felt that their work had been for naught and that the doctors were to blame."

"* * * The Governor unwittingly placed the average physician in an awkward position."

"To be sure it was a game of politics at the expense * * * of the ever willing doctor."

"The Governor has placed many physicians in embarrassing position * * *."

"Without going further does it therefore seem just that the physician should bear the censure

because the Governor failed to get the desired results from his political coup?"

The entire editorial vividly reveals the expressions of one who is wholly without information of the matter whereof he attempts to write. It is an unpleasant duty for an editor to reveal the manifest mistatements of a contemporary—happily the occasion does not arise over frequently and even then a majority of them may be overlooked with charity.

However, the editorial under discussion is so palpably unfair, abounds in such gross mistatements and is so perniciously slurring that we cannot conscientiously permit it to remain unanswered or forego placing our stamp of disapproval upon it.

For the benefit of the writer of the editorial and to set him aright the following facts are imparted:

1. Tuberculosis Day was conceived and the arrangements for its observance were made by the Committee on Study and Prevention of Tuberculosis of the Michigan State Medical Society. During the early summer the plan was suggested to us by the Chairman of that Committee. Its feasibility was discussed. A meeting of the Committee was held for its further consideration and the general outline of the plan perfected. The plan was submitted to officials of the society and interested workers in the Anti-Tuberculosis work who approved its promulgation.

2. The Chairman submitted to Dr. V. C. Vaughan, Sr., Dr. J. H. Kellogg, Dr. W. T. Dodge, and to the writer the letter that was sent to Governor Ferris respectfully requesting him to issue a proclamation creating Tuberculosis Day. That letter represented to the Governor the object of such a day, the good it was hoped would be accomplished and that it was the opinion of the Committee and other members of the profession that the entire medical fraternity of our state would cheerfully donate their time and services to make gratuitous examinations of all persons presenting themselves to ascertain the presence or absence of tuberculosis. Mindful of the history of our profession and its everwillingness to lend its time, efforts and influence for the prevention and relief of human ills the Committee felt warranted in making

such a representation to the Governor. It has as yet had no reason to alter its deductions in this respect.

3. The Committee felt that the day would be productive of greater results were the request for its observation and its establishment to emanate from the Chief Executive of our State. Further, it was felt that a Governor's Proclamation would forestall possible lay and press charges of the plan being one of a medical scheme to increase the doctor's interests.

4. In view of these facts which were presented to the Governor he unhesitatingly and cheerfully complied with the chairman's request and issued the Proclamation.

5. The plan was presented to our several county societies and those that held summer sessions unanimously endorsed it.

6. The various Anti-Tuberculosis organizations became interested and approved the plan by their active co-operation.

7. The leading daily papers of the state gave the day publicity and editorially endorsed the ends sought.

The foregoing facts warrant the statement that the *Detroit Medical Journal's* editorial, charging that the day was created as the result of "a game of politics," "a political coup" and an executive desire to embarrass the profession is an unwarranted and malicious untruth. Open acknowledgement and apologies are due the Governor from the writer of that editorial for such an unfounded and unwarranted insinuation.

The profession as a whole recognize the kindly interest of the Governor in the medical profession of the state and its problems. The profession has on many occasions experienced his hearty co-operation. The profession as a whole knows, although the writer of that editorial may not, that the Governor is over and above stooping to use the profession for personal or political machinations. We are indeed grateful to the Governor for the interest he has manifested in the doctors of Michigan and desire to assure him that the statements uttered by the writer of the editorial are not those of the majority of the profession.

The statement that "vague and indefinite reports were the rule," "incomplete and confused findings," "that classification was found im-

possible." That "the work was for naught," "the profession is censured" are all untruths and misstatements that are refuted and branded as false. In support of which we respectfully refer Dr. Wesley Taylor to page 536 of the October issue of this *Journal* which contains the committee report rendered to the House of Delegates at our Fiftieth Annual Meeting.

We have endeavored to discover the motive that evoked such an editorial exposition of erroneous deductions. We have been unable to lay bare the reason that justified its issuance. In charity we pass it by as an ill timed and poor effort to discuss a subject whereof the writer was misinformed.

Tuberculosis Day was a success. The plan was original and valuable—it has been copied by the National Association for the Prevention of Tuberculosis that is now endeavoring to conduct a Tuberculosis week nation wide, during December and which is planning to carry out the objects advanced for our Tuberculosis Day.

The educational feature was in itself sufficient for there is no doubt that many lay people learned the necessity of submitting to periodical examinations. In establishing Tuberculosis Day our Society promulgated a valuable plan for the ultimate achievement of the campaign that is being waged to eradicate and prevent tuberculosis—not withstanding the utterances of Dr. Wesley Taylor to the contrary.

Editorial Comments

In the third number of *International Clinics*, 1915, Brady of New York pointedly discusses the present system of therapeutic prescribing as enacted by the internist of today. He states: "If medical practitioners were as careful and exacting in their technic as surgeons are, we fancy general practice would be a more attractive field than it is at present; medicine would retain the confidence of the people if doctors themselves could acquire a precise therapeutic technic, and there is no reason why such technic may not be acquired, unless it be indifference, for the scientific basis of pure medicine is fully as well established as is the scientific basis of surgery." "Every physician ought to take a critical inventory of his therapeutic stock in trade at least once a year, and find out just how much junk and trash has accumulated on his shelves or in his mind. By going

over the list with a determination to simplify and cast out wherever possible one will generally find much food for thought. Thought leads to study, and study means perfection of technic. The satisfaction and pleasure derived from medical practice are in a large measure determined by the quality of one's therapeutic technic."

Those in charge of the University Hospital advance the statement that they admit only those who are financially embarrassed and who present a letter from their family physician stating that they are worthy of care for which they are unable to pay. The statement is further made that such patients are operated upon before the class. This rule governing admittance is a good one and would call forth no complaint were it but lived up to and enforced. It is apparently an obsolete and convenient regulation. From the patients admitted from one community as a basis, we are inclined to the opinion that not a single week passes during which two or possibly more patients financially able to pay for all services, are admitted and operated upon in the University Hospital without the making of a surgical charge. That the sole reason for these patients going to Ann Arbor is to escape paying the fee of a local doctor and surgeon. The problem is a difficult one for the University authorities and the profession to solve. It can be solved and the imposition abated if the University operators will rigidly enforce the rule and build up their clinics from worthy poor patients and no longer abet the scheming patient who seeks to avoid an operative fee.

As a suggestion for county society programs and as an admirable means of stimulating larger interest, we are publishing the following program. Other subjects, surgical and medical, may well be adapted to this plan of selecting a list of five minute speakers.

The regular monthly meeting of the Houghton County Medical Society will be held at Scott Hotel, Hancock, on Monday Evening, August 2, 1915 at 8:30 p. m. sharp.

PROGRAM

Five Minute Talks

1. Can we diagnose Tuberculosis in one sitting except in marked cases?
A. I. LAWBAUGH
2. The cardinal symptoms of danger in apparently healthy individuals.
J. E. SCALLON
3. What one important fact can Auscultation give us?
F. L. PIERCE
4. What important facts can we obtain from percussion and vocal fremitus?
W. H. DODGE
5. The question of temperature in single or continuous observation.
B. H. OLMSTEAD

6. Tuberculosis Day and what we wish to accomplish by it.
A. F. FISCHER
7. The significance of sputum findings.
M. D. ROBERTS
8. Special point in regard to Tuberculosis in children.
R. B. HARKNESS
9. Form of history chart.
JOHN McRAE
10. X-Ray in diagnosis.
G. A. CONRAD

The mailing list of *The Journal* now exceeds 2,600. This is our highwater mark. The past two years has witnessed a gain of over four hundred copies. We would that sufficient interest might be aroused to secure the affiliation of the some 500 eligible physicians in the state who are not members of our Society. The problem is one that merits the consideration of the directors of every county organization.

Personal items and news notes are solicited for each issue. If you are in possession of any items that are of interest to the profession will you not kindly impart them to us for the use in *The Journal*?

Cabot states: "The vast majority of the causes for indigestion have nothing to do with the stomach, that is, with any disease of the stomach. There is not an organ in the body which may not produce gastric symptoms." Of 15,309 cases presenting symptoms of what is commonly termed dyspepsia there were 12,612 cases of non-gastric origin. The remaining 2,697 cases where the stomach was in itself involved included cancer, ulcer, anomalies of secretion, size and position. These case records warrant the abandonment of our attributing the cause of deranged stomach activity to dyspepsia. It behooves us to search further for an accurate diagnosis. The stomach mixtures prescribed are, as a rule, valueless.

In 15,770 cases the cause was found in: Failing heart, 2,922; phthisis, 1,929; anemias, 1,925; neurosis, 1,482; nephritis, 1,197; gastric ulcer, 1,140; gastric cancer, 1,050; dyspepsia (cause unknown), 624; gall stones, 620; constipation, 605; cirrhotic liver, 553; gastritis gastro enteritis, 546; duodenal ulcer, 360; gastropotosis, 130; hyperchlorhydria, 109; hypoacidity, 28; tabes, 22.

Of all cases in which the cause was directly traced to the stomach itself it was found that gastric ulcer and cancer existed in 2,190 cases, leaving 590 cases of gastritis, optosis, hyper-and hypoacidity and unexplainable conditions. These case studies certainly contain much for reflection and the adaptation of our future treatment in our patients who consult us complaining of their stomachs and digestion.

Daily the mass of evidence accumulates demonstrating the important necessity of detecting the seat of local infections and absorption if we are to bring about an abatement of symptoms and establish permanent recovery. Many conditions that fail to respond to treatment have eventually revealed a focus in the teeth and peri-dental abscesses that went undetected until radiographs revealed their presence. The extraction of the teeth, opening and draining the abscess, making of an autogenous vaccine and its administration has accomplished complete relief of symptoms and return to normal health in patients whose recovery was despaired of and who were consigned to the chronic class drifting from one physician to another without benefit.

In our September issue we published an article setting forth the working plan of the Detroit Physician's Business Bureau. We repeat, the plan carried out in Detroit is an admirable one that might well be adopted by the profession throughout the state. We would indeed be glad to learn of its adoption outside of Detroit and the success that is met. The profession as a whole must abandon its slipshod methods of collecting their accounts.

Your county society will become of greater value to you this winter if you assume an active part in its program. The notice of its meeting and the subjects to be discussed reaches you in ample time to enable you to allot a few moments to look up the subject and go over your own cases and thereby permit your participation in the discussion. You owe this to yourself and fellow member.

Much has been said and a good deal written about the young graduate, the young doctor's lack of opportunity to participate in the activities of the county, state and national medical societies. Certain writers in the daily papers have openly stated that the older men purposely seek to suppress the young doctor and to place obstacles to retard his attainment of a successful practice.

One who is in the least conversant with medical organization life and activity knows the absurdity of such a charge or statement. The opportunity exists, the young man needs but exhibit sufficient gumption to grasp it. He must realize that the discussion of his observations and writings are not "callings," "sitting down upon" or "snubbing." They are wholesome, constructive criticism calculated to enlarge his viewpoint and manner of thinking. They serve a broadening purpose calculated to make him a broader, more valuable member of the profession.

To become discouraged by such an experience stamps your calibre, calls out your number. To him worthy and desirous of succeeding we would say:

Dig in and make your dent in the world, and if you are made of the right material, the older men will invariably give you a hand and a proper steer to make the dent a deep one.

Correspondence

September 27, 1915.

Editor, *The Journal*:

Dear Sir: At their meeting on July 22 the Regents of the University adopted the following resolution:

"Resolved, That the University Library announce to the medical profession of the State that the Library will serve the profession by furnishing, upon request, bibliographies and transcriptions of articles upon medical subjects, at the cost to the Library for such service."

This note is sent to you in accordance with the resolution of the Regents. The desire of the Library officers to serve the medical profession (as well as all other citizens) has been evidenced by their response to individual requests for years past. The ability of the Library to render freely an increasing service is limited chiefly by the imperative demands of its routine service to students and faculties. So far as possible, requests for bibliographic information on a specific topic will be gladly answered without charge. Prepared *lists of articles and transcripts* will be supplied at the cost of the service rendered. Arrangement have been made to have such requests answered promptly.

The University Library has now a serviceable collection of general scientific periodicals and transactions of societies. Its books on medicine and allied branches number some 38,000 volumes. In addition it possesses bibliographic resources which frequently make known the location of desired books and periodicals in other libraries. By the system of inter-library loans books can be secured for a brief period by an investigator either through his local library, or (occasionally) through the agency of the University Library. When a loan is not feasible, it is often possible to arrange to have the books desired assembled in advance and reserved either at Ann Arbor or some other library center for a personal visit.

Correspondence in reference to this service should be addressed to the Librarian, General Library, University of Michigan, Ann Arbor.

WM. W. BISHOP, Librarian.

State News Notes

At the annual meeting of the Detroit Academy of Medicine held October 12, 1915, the following officers were elected:

President—Dr. Charles D. Aaron.

Vice-President—Dr. Guy Connor.

Secretary & Treasurer—Dr. Alpheus F. Jennings.

Drs. De Kliene, V. C. Vaughan, Jr. and J. B. Whinery conducted a tuberculosis clinic in Cadillac October 5, 6, 7 and 8. This is the first clinic conducted under the Board of Health's anti-tuberculosis campaign.

Dr. M. L. Holm, recently appointed director of the Upper Peninsula Branch laboratory of the State Board of Health, tendered his resignation to take effect October 15. Dr. Holm will open a clinical laboratory in Lansing.

Dr. B. D. Harrison, Secretary of the Board of Registration, secured the arrests of Daniel B. Weaver, O. J. Lofquist, J. Alton Watson and S. Clay Todd, all of Grand Rapids for alleged violations of the medical act.

Governor Ferris delivered the principal address at the graduating exercises of the Butterworth Hospital Training School of Grand Rapids. A class of fourteen received their certificates.

Mrs. Fred H. Humphrey, of Monroe, a sister of Dr. C. T. Southworth died at her home in Monroe on September 28. The *Journal* extends the condolences of the profession to Dr. Southworth.

Dr. A. F. Stone, of Bay City, sustained the loss of his first and third finger of his left hand by reason of their becoming caught in the self starter of his automobile.

Dr. A. W. Crane of Kalamazoo was elected President of the American Roentgen Ray Society at its annual meeting held in Atlantic City during September.

The contract for the Mott Contagious Disease Hospital to be connected with the Hurley Hospital of Flint was awarded September 30 for \$14,000.

A "Better Babies" contest was held under the auspices of the Child Welfare League of Kalamazoo during the week of October 4.

Dr. C. G. Parnall, of Jackson, has been appointed

by the State Board of Health as inspector for Jackson and Lenawee county.

Dr. J. B. Murphy, of Chicago, will be one of the essayists of the Kalamazoo Academy of Medicine during November.

Dr. Samuel Bell and Dr. Jean A. Vernier of Detroit announced their marriage on August 13, 1915.

Dr. C. C. Webb, of Manistee, sustained a fracture of his right ankle September 29.

Dr. C. L. Girard, of Escanaba, has located in Marquette.

Dr. R. D. Joldersma, of Bloomingdale, has moved to Idaho.

County Society News

DETROIT SOCIETY OF NEUROLOGY AND PSYCHIATRY

The Detroit Society of Neurology and Psychiatry held its annual meeting, October 7, 1915 at the Medical Building, Detroit. The following officers were elected:

President—Dr. G. C. Huber, Ann Arbor.

Vice-President—Dr. A. W. Ives, Detroit.

Secretary-Treasurer—Dr. Guy L. Connor, Detroit.

Members of Council—Dr. E. A. Christian, Pontiac; Dr. D. R. Clark, Detroit.

GUY L. CONNOR, Secretary.

EATON COUNTY

The fourth regular meeting of the Eaton County Medical Society was held at Pine Lake (near O'ivet). This was a social gathering as well as a scientific meeting, the doctors being requested to bring their wives and friends. After enjoying a picnic dinner the following programme was carried out as announced:

Meeting called to order by President W. E. Newark; the Secretary being absent Dr. Sackett was appointed Secretary pro-tem. Minutes of the last meeting were read and approved.

1. History of Typhoid Fever,

Dr. Rockwell.

2. Etiology of Typhoid Fever,

Dr. Taylor.

Discussion by Drs. Burleson, Quick, Knight and Hafford.

3. Symptomatology,

Dr. Quick.

Discussion by Drs. Rockwell, Burleson, Knight, Newark and Sackett.

4. Prophylaxis,

Dr. Stimson.

Discussion by Drs. Blanchard, Rockwell, Blinn and Quick.

5. Treatment,

Dr. Sackett.

Discussion by Dr. Knight.

6. Dietetics,

Dr. Newark.

Discussion by Drs. Blanchard and Burleson.

7. Surgical Treatment,

Dr. Blanchard.

Guests were Dr. Hafford of Albion and Dr. Blinn of Charlotte.

The next meeting will be held at Charlotte, Nov. 18, 1915.

G. M. BYINGTON, Secretary.

GRAND TRAVERSE-LEELANAU COUNTY

The regular meeting of the Grand Traverse-Leelanau Medical County Society was held on Tuesday evening, October 12, at Dr. Wilhelm's office. The meeting was called to order at 8:30 by the President, Dr. J. F. Slepicka.

Dr. Wm. DeKleine, Director Division of Tuberculosis, State Board of Health, addressed the Society. Arrangements were made to begin the tuberculosis campaign in Grand Traverse and Leelanau counties the latter part of November.

W. D. MUELLER, Secretary.

GRATIOT COUNTY

The October meeting was held in the Circuit Court room at Ithaca. Eleven members and one visitor attended the business session. President Foust read a short article from the Medical World descriptive of an organization in another state, organized to publish, or exchange a dead beat list. After considerable discussion a motion was made and carried to have a committee of five physicians interview the doctors of the county, and report at the next meeting. President appoints Drs. Kilborn, Crane, Barston, Brainard, Graham.

President Foust read the following as the report of the committee on advertising. "The Gratiot County Medical Society hereby respectfully request that the publishers of papers in the county do not publish therein the names of any of its members in relation to any professional service rendered. This request is made to avoid any possible accusation which might be made against any members of using either directly or indirectly the news columns as a means of advertising.

On motion of Dr. Barston the Secretary was instructed to send a copy of this to every paper in the county.

Adjournment was then made to the residence of the Dr. and Mrs. Weller where partners were chosen by number for the dinner at the Seaver House. Thirty enjoyed a splendid dinner, after which all who could returned to the Weller residence where music, recitations and stories were given for a social hour.

All voted the "Get together" meeting, and especially having the wives along a real success. Every one hoped he would not have to wait a year before we have another.

E. M. HIGHFIELD, Secretary.

TRI-COUNTY

During the first week in October Cadillac and Wexford county was the scene of unusual medical activities. The State Board of Health began its campaign against tuberculosis at this time. Dr. De-Kleine of Lansing had been here previously and made preliminary arrangements. Dr. V. C. Vaughan, Jr., conducted the first four days of the Clinic. The fifth day was conducted by Dr. J. B. Whinery of Grand Rapids. During these five days over seventy examinations were made. Out of this number twenty-six portrayed positive signs of tuberculosis, and eleven others were suspicious.

The Clinics were conducted in Cadillac, Mesick and Manton. The doctors from Wexford and adjoining counties attended the meetings in large bodies. Aside from the value to the people examined, the Clinics were of great worth to the physicians, as they were very instructive. In cases which had been under personal observation there were often elicited symptoms by the demonstrator which had been overlooked by the family physician.

The Clinics were instrumental in arousing a great deal of interest in the minds of the public and will be of lasting benefit. In the future early symptoms will be looked upon with suspicion and people will not rest until they consult their physician. This alone will be of value, as it will be instrumental in guarding and advising incipient cases.

On Thursday, October 7, the entire profession together with their guests enjoyed a most pleasant evening at the McMullen cottage on Lake Mitchell. The chef, Dr. C. E. Miller of Cadillac, had prepared a most bountiful and elaborate dinner. Dr. Miller is specially adept in this line; his culinary efforts would have pleased Epicureus himself, and so it goes without saying that the feast was at least partially responsible for the glad countenances of all

those present. After dinner a social session lasted into an early morning hour.

A most amiable feeling exists between all our members. At various intervals we gather together for an informal lunch or dinner, during which time questions of interest are informally discussed. At the present time there is a movement on foot to establish a laboratory and full time Health Officer in Cadillac, and as we appreciate the benefit which will be derived therefrom our hearty support is being given to the movement.

RUDOLPH J. E. ODEN, Secretary.

WAYNE COUNTY

Meeting September 27, 1915.

Lung Abscesses (Illustrated),

Dr. Max Ballin.

Discussions by Drs. C. G. Jennings, E. W. Haass, Angus McLean, A. D. McAlpin, V. C. Vaughan, Jr.

NOTICE.

The Library Committee requests all members of the Society to send in the name of any particular book or books which they would like to have the Society purchase for the Library.

Robert C. Jamieson, M.D.

NEWS ITEMS—PHYSICIAN'S BUSINESS BUREAU.

John N. Bell, Business Manager

Phone Cherry 3489

While its members were enjoying the pleasures of a vacation the Business Bureau kept on sawing wood. The Board of Control met each week just the same. Though the summer months are poor collection months, yet we increased our collections over each preceding month.

One thing our members must do in order to get better returns in their collections is to get the full name and address of their debtor. The name Smith and lives on Jones street, does not help much as a number of Smiths may live on that same street. Many have accounts turned in for some time that had no information at that time and who could by calling the Bureau now give us such information as would help in making a prompt collection. Why not stop in at the office some time soon and go over your accounts, not collected, and help us in getting more information. It would be to your advantage. Call up the Bureau when you wish information. We would be glad to give you credit rating on names listed with us at any time during office hours.

There are evidently many who do not care for a Bureau run by themselves or they would support it. We hope to have greater enthusiasm during this coming winter.

Send in all your accounts at once and we will get busy. If your accounts are not being collected call and see what is the matter. We solicit criticism as well as information.

R. L. Clark.

REPORT OF HOUSE COMMITTEE 1914-1915.

In making out its report for the past year, your House Committee will not present to you a trial balance of the year just completed, as you have heard the report of your treasurer in which the different items of receipt and disbursements are given. But your committee desires to refer briefly to what has been done in the way of repairs, additions to the equipment and to offer a few recommendations for the coming year.

The auditorium has been rented to various organizations for musicales, dancing parties and theatricals. The gross receipts amounted to nearly \$1,400.00 (January 1 to September 1), where they were just over \$1,000.00 the year previous. The expenses in keeping up the auditorium were about \$700.00, leaving an income of about \$700.00 for the eight months. The income of the year before was \$400.00. In the outlay against the auditorium are to be found such items as resurfacing the floor, \$85.00; new piano, \$185.00; 150 new chairs, \$95.00, canvas tarpaulin, \$122.50 and its proportion of heat and light bills.

The heat bills amounted to \$883.60 as compared with \$931.49 the year before, a saving of nearly \$50.00. With more rigid economy and vigilance the saving should be increased still more.

The income and profit from the sale of liquors and cigars is about \$30.00 per month. A new steel safe was purchased for the office at a cost of \$50.00, for the safe-keeping of the Society's documents. Purchases were made to complete the equipment of the cafe, such as new dishes, new linen, a new coffee urn, etc. An incinerator to burn up the garbage was purchased at a cost of \$75.00.

The major repairs of the house include such items as varnishing and refinishing the floors at a cost of \$126.00, rubber matting for the stairs about \$50.00; linoleum for toilets and east side coat room, \$67.00; a new cement walk at west side of house, \$39.50, and a bill for carpenter work of \$153.25 for fixing up and altering the basement and building several window screens. There were minor disbursements for cleaning rugs, repairing roof and eaves, cleaning chimneys and other small repairs and outlays that are always necessary and inevitable.

Next year the annual meeting of the American Medical Association takes place in Detroit and there are several things that should be done before our guests arrive. Your committee would recommend that the house be painted, some new rugs and curtains be purchased, tiling in the front hall be

repaired and the present ice box be repaired or a cooling system be installed.

Your committee cannot refrain at this time from mentioning more in detail concerning the ice box. As at present constructed the ice box certainly does eat up the ice. During the summer months the ice bills are about \$30.00 per month. Even in the winter the bills run about \$15.00 or \$16.00 per month. This is altogether too much. Your committee would emphatically recommend that an expert be consulted and find out if the present box can be made over, repaired, reconstructed at not too great expense or whether it would be cheaper to install a small cooling system. The present ice box with its thin walls opening directly into the kitchen, and surrounded by steam pipes is certainly a financial leak that should be calked.

The chairman of your committee takes great pleasure in thanking the Society for its forbearance and suggestions during the past year, also wishes to personally thank the other members of the committee, Doctors Ernest Lee, Warren Babcock, Frank Kelly and Carl Meloy for their valuable aid and suggestions during the past year, also to our efficient librarian and manager Miss White, much praise and thanks are due in carrying out the manifold duties of the house committee in so able a manner.

Respectfully submitted,

House Committee, W. H. Morley, Chairman.

IN MEMORIAM—WAYNE COUNTY MEDICAL SOCIETY REGULAR MEETING, SEPTEMBER, 20, 1915.

Whereas, Death has removed from our midst our esteemed associate Dr. Florence Huson, be it

Resolved, That we extend our deep sympathy to the family of the deceased, and be it

Resolved, That in her death the Wayne County Medical Society loses a faithful and loyal member, and be it

Resolved, That copies of these resolutions be recorded in the records of the Society and published in the weekly Bulletin of the Wayne County Medical Society.

Delos L. Parker, M.D.

M. V. Meddaugh, M.D.

William R. Chittick, M.D.

Committee.

Dr. Florence Huson, a member of this Society, died at her home in this city August 12, 1915. Death resulted from a stroke of paralysis. Dr. Huson was 58 years old at the time of death. She received instruction at the Ann Arbor High School, and was graduated from the Medical Department of the University of Michigan in 1885. From the university she came to Detroit to open a private hospital for Dr. Donald Maclean. Some years later she entered upon the private practice of medicine here and con-

tinued in this line of work up to the time of her death. Early in her medical career Dr. Huson became identified with several charitable and other important undertakings. She was an early member and an ex-president of the Blackwell Society. She organized and was the first president of the Free Dispensary for Women and Children. She was a member of the American Medical Association and an ex-president of the Michigan State Medical Society; a director of the Young Woman's Christian Association; of the Young Woman's Home and of the Priscilla Inn. She was one of the moving spirits of the College Club. For many years she was a member of the staff of the Woman's Hospital. She was widely known and universally respected as a superior woman, and many organizations devoted to the improvement of social conditions looked to her for advice. Her death is a distinct loss to the city as a whole.

Dr. Huson was a large hearted woman with an unusual equipment of knowledge and sense, who did much good in the world. Her philanthropies were unobtrusive, but many, and the bulk of her considerable estate was left to charity.

REPORT OF COMMITTEE ON NECROLOGY.

September 20, 1915.

Your committee, a year ago, reported the death of Dr. E. B. Smith, August 12, 1914.

Since then Dr. Joseph Shellfish, Mr. F. E. Moulder, associate member, September, 1914, Dr. E. A. Chapoton, February 6, 1915, have left us for the great beyond. Of Dr. Huson your present committee on Necrology will speak.

The year past, therefore, has happily not greatly encroached upon our ranks by death of members.

Respectfully submitted,

Charles W. Hitchcock,
Chairman Committee of Necrology.

REPORT OF COMMITTEE ON NURSES.

The Committee on Nurses of the Wayne County Medical Society has the honor to report that the purpose for which the Central Nurses' Directory was established by the placing of the directory under competent central management and under our own roof has been fully realized by its increasing worth to its own membership, to the physicians of the county and the community at large. From a small beginning it has grown by degrees through the hard work of its officers and members until now with its union last December with the Wayne County Nurses' Association, its membership numbers some 500, with fifteen practical non-graduate nurses and eight male nurses.

The graduate nurse of the larger hospitals of the city naturally forms the greater part of its mem-

bership, but the graduate nurse of the hospitals of other cities early seeks admission, when entering into practice here. The Wayne County Nurses' Association Directory is to the nurse what the Wayne County Medical Society is to the physician, a badge of recognition of usefulness to the community.

With experience, efficiency of management has proved and we cannot commend too highly its usefulness, yea its necessity to us and the Committee desires to express herewith its appreciation to the officers of the Nurses' Association Directory for their untiring efforts to place every facility before the physician.

Some idea of the demands made upon the Association may be gleaned from a perusal of its report for the month of June, July and August of this year:

Calls supplied	982
Calls made but not supplied	27
Calls canceled	20
Calls for the practical nurse	29
<hr/>	
Total	1058

The trained nurse has become a necessity not only to the hospital but more and more so to the home. As the field of the physician is gradually enlarging to embrace the community's interest in the prevention of disease, the work of the trained nurse has been found even more closely interwoven with his. Their work is in common, their ideals are identical: service to humanity. So may the members of the Medical Society collectively and individually offer in the future as in the past to the Nurses' Association within our midst every encouragement to the continuance of its goods work by hearty co-operation.

Andrew P. Biddle, Chairman.

REPORT OF PUBLICATION COMMITTEE.

To the President Wayne County Medical Society:

Dear Sir: The Publication Committee respectfully submits the following report:

The weekly was published throughout the current year.

The income from Sept. 1, 1914, to Sept 1,	
1915 was	\$1,630.04
The debit for the same period was	1,319.16

Net income for weekly	\$ 310.88
Still on books	\$ 106.00

A circular containing the revised constitution and by-laws, together with a history of the Society and names of the members to September 1, 1915, is now in the printer's hands and will be in the mail within a few days.

(Signed)

Alpheus F. Jennings, Editor.
R. C. Hull, Business Manager.
James Cleland, Jr., Program Com.

REPORT OF LIBRARY COMMITTEE.

I herewith submit the report of your Library Committee for the current year of 1914 and 1915.

No. 1. Number of bound volumes in library, 14,621. Of these, 4,700 are duplicates.

No. 2. Number of current journals on file, 90.

No. 3. Amount of money spent for books and journals has been \$232.80. One hundred twenty-four journal files are now being bound and these will cost approximately \$125. Already \$35 have been spent for binding.

Through the courtesy of Mr. Adam Strohm, of the Detroit Public Library, the library is again the recipient of books valued at \$300.00.

For books and journals we are indebted to the following:

Florence Huson, H. W. Yates, Max Ballin, E. B. Smith, A. D. Holmes, J. H. Carstens, Harold Wilson, C. W. Hitchcock, F. C. Kinder, H. M. Rich, A. D. Aaron, W. P. Manton, M. Beumosche, Neurological Society, Ophthalmological Society, Atolaryngological Society, W. H. Morley, American Medical Association, H. R. Varney, R. C. Jamieson, F. W. Robbins, G. E. Fay, W. J. Wilson, Jr., L. J. Hirschman, E. M. Houghton.

The Library is rapidly increasing in size and the increased demands will require the entire time of the librarian. Cataloguing of the library is necessary and this will require at least a year's time. The Committee, mindful of the fact that the Society is under heavy expense, nevertheless recommends that the board of trustees secure the services of an expert cataloguer at the earliest possible moment.

Signed on behalf of the Committee,
Ernest K. Cullen, Chairman.

REPORT OF PROGRAM COMMITTEE.

I herewith transmit to you my report as chairman of the Program Committee for the season of 1914-15.

We have had all of our dates filled and the meetings have been well attended and enthusiastic.

During the season past we have had twenty general meetings; one special; eight surgical meetings; eight medical meetings.

The number of papers read before the Society was fifty-seven. The number of guests from out of town reading papers was twenty.

The only recommendation we would suggest for the good of the Society is this:

That the council consider the advisability of providing a fund to be used by the committee in bringing men from out of town.

Some of our invitations to men outside were turned down because they could not see their way to pay their expenses. If we could say to them, your

traveling expenses will be paid by the Society, I am sure we would get some extra good material. In some cities I learn that traveling expenses are paid by the Society.

A large majority of the invited guests, however, would rather pay their own expenses, so that the expenses of the Society would probably be small.

The expense of the Committee for the season amounts to \$1.95 as per bill enclosed.

Respectfully submitted,
James Cleland, Jr., Chairman.

REPORT OF THE ENTERTAINMENT COMMITTEE.

I beg to submit the following report of what was done by the Entertainment Committee for the season of 1914-15:

On November 24, 1914 a very successful and entertaining smoker was given at the Medical Building, and on the evening of April 27, a travelogue was given at the same place, which was not so much of a success. The smoker was a money making effort and the sum of \$258.10 was taken in; the travelogue was a free entertainment, with free refreshments and cigars.

Below is a summary of receipts and disbursements for the smoker:

Cash received	\$258.10
Cash paid out	144.32
Balance	\$113.78

Respectfully submitted,
C. L. Chambers.
Chairman Entertainment Committee.

Meeting October 4, 1915.
Mortality as Revealed by Life Insurance Statistics,
Dr. Frank T. F. Stephenson.

Discussion by Drs. Herbert M. Rich, J. H. Carstens.

N. B.—Meetings of the Surgical Section, which take place on the fourth Monday of each month, will be called promptly at 8:30 p. m.

SECRETARY'S REPORT, 1914-1915.

The year of 1914-1915 has been a most successful one in the history of the Wayne County Medical Society.

Our membership has increased from 634 active and seventy-four associate to 673 active and seventy-two associate, a total membership of 745. Of this number, however, I regret to add that forty-eight are still in arrears for 1915.

While the proportion of our membership attending the weekly meetings is not large, our meetings have usually been well attended, the average being 120.

The policy of the program committee in having

many of the programs filled by out of town guests has undoubtedly added to the interest in the meetings, though to our own members as well are our thanks due for many valuable evenings.

We have held twenty-one meetings of the Society and eight meetings each of the Medical and Surgical sections.

One of the most important steps which we have taken this year was the establishment of the Business Bureau. The Chairman of the Board of Control will later in the evening report to us the present condition of that organization. Its success is a cause of just pride to those who have worked hard to establish it.

From the experience of the past year I make this recommendation to the Society:

That the chair appoint a committee on Irregular Medical Practice, this committee to investigate any charges of unethical action on the part of any member and to be the Society's representative in any action against irregular practitioners in our community.

As the organization of the medical profession of Wayne County we are the standard bearers and can not escape the responsibility not only for keeping ourselves clean, but for protecting the public from unscrupulous men outside our ranks.

The council has spent many hours listening to accusations against various Detroit doctors, not formally preferred charges, but accusations which we felt should be looked into.

This has hampered the regular work of the council. A committee to perform this work would be of decided value.

At the risk of anticipating our president I wish to impress upon every member that the year we are now beginning is an opportune year for our Society. The A. M. A. will hold its next meeting here in June, to which will come men of national and international reputation. Surely every Detroit physician will want to attend its meetings. Membership in the national organization depends on membership in the County Society. Get your neighbor and friend to join the Wayne County Society, and get him *now*.

C. E. Simpson, Secretary.

A COMMITTEE ON CANCER.

Wayne County Medical Society.

The last Government Bulletin, No. 112, Mortality Statistics, shows that cancer increased 25 per cent. during the decennial period 1901-1911. While this increase may not be absolute, it is well known that cancer is alarmingly prevalent and is one of the most fatal of disorders.

As cancer is a local development and, if taken

in time, is quite amenable to cure, it is incumbent upon the profession to exert the most energetic efforts toward its prevention and cure, and to instruct the laity by publicity and personal warning in regard to those conditions which it is supposed may lead to its genesis. It is therefore moved that a perpetual committee be appointed by the president of the Wayne County Medical Society, said committee to consist of three members, whose duty it shall be to continually bring to the attention of physicians the necessity of prophylaxis and the early recognition of cancer, and the inauguration of prompt and energetic treatment, further to instruct the laity through appropriate lectures and articles in medical journals and the public press, in the early signs of symptoms and dangers of this grave disease.

The committee first appointed shall serve for three, two and one years respectively, a new member being appointed each year at the annual meeting of the Society, or immediately thereafter, by the newly elected president, who shall also have power to fill vacancies. The following committee was appointed:

Dr. Walter P. Manton for one year.

Dr. Jas. D. Matthews for two years.

Dr. Jos. H. Andries for three years.

SALVARSAN.

Whereas, according to the statement of the Farbwerke-Hoechst Company, distributors for this country, the stock of salvarsan and neo-salvarsan is entirely exhausted; and

Whereas, its use in the successful treatment of syphilitic affections has become an absolute necessity; and

Whereas, syphilis is a communicable disease and very dangerous to the public health and from which thousands are innocent sufferers; therefore be it

Resolved by the Wayne County Medical Society that a committee of two be appointed by the president to address the State Department at Washington with the request that the British and French Governments be asked *on humanitarian grounds* so to modify the British "Order of Council" as to permit the shipments of these goods now held in Rotterdam; and further

Resolved, that the various State Boards of Health and influential medical societies throughout the land be requested to join in this appeal to the State Department.

The president appointed as members of this committee:

Dr. A. P. Biddle.

Dr. R. A. C. Wollenberg.

MONTCALM COUNTY

The annual meeting of the Montcalm County Medical Society was held in the City Hall, Greenville, Mich. on the evening of Oct. 14, 1915. There were about twenty present at the meeting and listened to a very interesting paper on "Neuroses of the Heart" presented by Dr. Eugene Boise, of Grand Rapids. This was followed by the subject of Arteriosclerosis presented by Dr. F. J. Fralick, of Greenville, Mich., and a report of a case by Dr. H. N. Flexnor, of Lakeview, Mich. The following officers were elected:

President—Dr. M. E. Danforth, Stanton.

Vice President—Dr. F. A. Johnson, Greenville.

Secretary-Treasurer—Dr. F. J. Fralick, Greenville.

After which a luncheon was served by the Greenville city physicians.

F. J. FRALICK, Secretary.

Book Reviews

A TEXT BOOK OF CHEMISTRY AND CHEMICAL URENALYSIS FOR NURSES. By Harold L. Amoss, S.B., S.M., M.D., Dr. P. H., formerly Chemist, Hygiene Laboratory, U. S. Public Health Service; Physiological Chemist, U. S. Bureau of Chemistry; Instructor in Physiological Chemistry, George Washington University Medical School; Assistant in Preventive Medicine, Harvard Medical School. 12mo, 268 pages. Cloth, \$1.50, net. Lea & Febiger, Publishers. Philadelphia and New York, 1915.

The outstanding characteristics of this volume are its clear diction, extremely lucid explanation and definition and the consistent emphasis placed on those aspects and bearings of chemical science, a knowledge of which is certain to be of practical advantage to the nurse.

Dr. Amoss has made a careful but very concise survey of the whole subject, making clear the terminology of the science, afforded definitions of unusual lucidity and selected for more detailed consideration those points, an understanding of which must increase the capacity of the nurse for intelligent service. To this end stress is laid on the chemistry of foods, of metabolism and of digestion, and on uranalysis and allied subjects. A clear grasp of the requirements of the nurse has enabled him to avoid the two extremes of superficially and of too minute attention to detail and the more complicated aspects of his subject. Technical terms are elucidated and laboratory procedures explained. A useful feature is a brief and most enlightening summary, at the end of each chapter, of the information the author has endeavored to impart. The nurse who devotes serious attention to this volume will have an intelligent working knowledge of general chemistry and a useful, well grounded, understanding of the science as it bears on her work.

A TEXT BOOK OF SURGERY FOR STUDENTS AND PRACTITIONERS. By George Emerson Brewer, A.M., M.D., Professor of Surgery, College of Physicians and Surgeons, New York; Surgical Director, Presbyterian Hospital; Consulting Surgeon, Roosevelt Hospital, assisted by Adrian V. S. Lambert, M.D., Associate Professor of Surgery, Columbia University; Attending Surgeon, Presbyterian Hospital; and by members of the surgical teaching staff of Columbia University. Third edition, thoroughly revised and rewritten. Octavo, 1027 pages, with 500 engravings and 23 plates in colors and monochrome. Cloth, net, \$5.50. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The thoroughness of the latest revision has added to the practical usefulness of a work which will be accorded general recognition as a complete presentation of modern surgery and a text of unusual lucidity.

The author is qualified to speak with authority and not less qualified from his teaching experience to present a difficult subject in the form best calculated to enlighten the student and sustain his interest. The new third edition stands as an authoritative presentation of advanced thought and approved practice in surgery. Prof. Brewer has succeeded in treating fully all essential aspects of surgery in a one-volume text book which should lighten the burden of the student, and should be equally useful as a reference work for the surgeon or a guide to the practitioner who aims to keep in touch with the best practice.

The recent advances in surgery have been so great that it has been necessary to largely rewrite this work. The author has secured from members of the teaching staff of Columbia University, who have been in intimate touch with the progress in these fields, chapters dealing with some of the most notable recent advances. This results in adequate and appreciative treatment, and at the same time increases the authority of the work and its didactic quality.

The chapters dealing with Hernia, Infections of the Hand, Cellulitis, Spinal Cord, Nerves, Head, Bone Infection and Shock, in particular, give evidence of the careful revision and the thoroughly modern viewpoint adopted. The size of the volume has been substantially increased. The illustrations, many of which are from photographs in the surgical laboratory of the Presbyterian Hospital and from Lumiere photographs of clinical conditions, are so selected as to assist greatly in the mastery of the text.

CANCER: ITS STUDY AND PREVENTION. By Howard Canning Taylor, M.D., Gynecologist to the Roosevelt Hospital, New York; Professor of Clinical Gynecology, Columbia University; Member American Society for the Control of Cancer, etc. 12mo. 330 pages. Cloth, \$2.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The author in this work has presented the results of a careful study of the cancer problem in all its aspects. He has made a careful analytical examination of the literature, and subjected the conclusions

therein contained to comparison with the results of his own extensive observations in hospital and general practice. The data derived from official reports have also been carefully weighed and scrutinized. The material thus obtained has been coordinated, discussed and put in a form which makes it immediately useful to the practitioner or special student of the subject.

In the final analysis Dr. Taylor's work is a clear, condensed and complete presentation of present knowledge in regard to cancer. He views the subject in its broader aspects, and offers much information which is not only of immediate value to the physician, but available for dissemination by him among the laity in the hope of reducing the cancer death rate by creating a more intelligent understanding of the causes of cancer; the means by which the individual may lessen his liability to attack, and the possibility of complete cure as the result of early operative treatment.

Every item of available information which sheds light on the causes of cancer or indicates measures for its prevention is presented logically and in complete detail. Emphasis is laid on diagnosis and on the importance of the early recognition of the disease. To further this the earlier symptoms are enumerated at length in the consideration of each type of sarcoma and carcinoma. Pathology and Etiology are given extensive consideration as is the treatment of inoperable cases. The full statistical information is so arranged by the author as to afford the largest measure of assistance to the practitioner who will find this volume a concise and at the same time complete guide in his handling of these cases.

DISEASES OF THE NERVOUS SYSTEM: A TEXT-BOOK OF NEUROLOGY AND PSYCHIATRY. By Smith Ely Jelliffe, M.D., Ph.D., Adjunct Professor of Diseases of the Mind and Nervous System, New York Post-Graduate Medical School and Hospital, and William A. White, M.D., Superintendent of the Government Hospital for the Insane, Washington, D. C.; Professor of Nervous and Mental Diseases, Georgetown University; Professor of Mental Diseases, George Washington University, and Lecturer on Psychiatry, U. S. Army and U. S. Navy Medical Schools. Octavo, 796 pages, with 331 engravings and 11 plates. Cloth, \$6.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

In this text-book the authors have described the diseases of the nervous system in the order of its evolutionary development, beginning with those biophysical and biochemical syndromes which are indicative of disturbances at the phylogenetically lowest, the vegetative level of the nervous system. They have taken up the disorders more closely confined within the sensori-motor systems, and have concluded by the discussion of those diseases which more clearly involve the psychical processes. Thus the reader passes in orderly progression from the

purely biophysical levels of unconscious automatic activities to the highest psychical levels of conscious social adjustment, which is the distinctive characteristic of man. It has been difficult to group all diseases of the nervous system strictly by means of this scheme, chiefly because many of them, if not all, spread over the borders of one level to other levels. The general advantages of such an arrangement, however, are great, and permit of an orderly perspective of the functions and disorders of the nervous system. Such a comprehensive plan for a text-book on nervous diseases is here attempted for the first time.

A distinctive feature of this work lies in the fact that the authors have tried to make it a connected story from cover to cover, embracing the whole realm of nervous diseases—not two books—one on neurology and one on psychiatry, merely compassed by one binding. To this end the various elements of a given problem are brought together and treated consecutively; as for example the syphilitic, the arteriosclerotic and the toxic syndromes. These problems present themselves in this way in practice, and any independent and disconnected consideration of these elements tends to further an erroneous belief in the separateness and autonomy of the different reacting levels, which are in reality so closely connected as to be virtually one. Such an arrangement prevents a comprehensive grasp of the meaning of disorders of the nervous system that this work aims to convey.

In recent years great advances have taken place in knowledge relative to the two extremes of the nervous system, the vegetative and the psychical. The new facts gathered relative to the internal secretions and of their effects, acting through the medium of the vegetative nervous system, has given us our most comprehensive idea of the relationship between these two great groups of reactions so long considered under the unsatisfactory titles of the functional and organic. Therefore, in order to attain clearness and unity of treatment, the authors have expressed reactions either in physicochemical or in psychological terms, as seemed best. If their efforts have been successful, the descriptions of well known diseases should gain a new vitality and make a deeper impression on the memory.

Throughout the work the authors have aimed at practically, and have endeavored to avoid limiting hypotheses, in the belief that it is safer to adhere to the objective findings. Nevertheless they have not been entirely satisfied with descriptions, but have aimed at interpretations. They have tried to avoid the analysis of the meaning of words in order to understand the actions of things, and have not hesitated, therefore, to formulate certain interpreta-

tions in psychological terms, without actually committing themselves to philosophical theories or even to a restricted philosophical position. The criterion has been reviewing of facts as observed in the writers' own personal experience.

POTTERS COMPEND OF ANATOMY. Revised by D. Gregg Metheny, Associate in Anatomy, Jefferson Medical College, Philadelphia, Eighth Edition, 139 illustrations, numerous tables, 428 pp. Cloth, price \$1.00 net. P. Blakeston's Son & Co., Philadelphia.

The revision has improved this standard compend. The compend has always secured our approval and admiration and this edition merits its continuation. The volume is one that is of value to student and practitioner alike.

Miscellany

Filudine.—This is a French proprietary sold in this country by Geo. J. Wallau, Inc., New York. It is offered as a remedy for "biliary insufficiency," "hepatic insufficiency," "intestinal dyspepsia," "all effections of the liver (diabetes, cirrhoses, cancer, etc.)," "malaria," "obesity" and "tuberculosis." The statements in regard to the composition of filudine are unsatisfactory and even contradictory. The Council on Pharmacy and Chemistry reports that filudine is a mixture of semi-secret composition; that the therapeutic claims are manifestly unwarranted. The name is not indicative of the composition, whatever that may be, and no rational excuse is offered for the combination of liver and spleen extracts (with or without bile extracts) with "thio-methyl arsinat" or "thio-cinnamate" of caffein (*Jour. A.M.A.*, Sept. 18, 1915, p. 1045).

Globeol.—Globeol is sold by Geo. J. Wallau, Inc., along with Urodonal, Jubol and Filudine. The Council on Pharmacy and Chemistry reports that when the description offered by Wallau is divested of obscuring verbiage, globeol appears to be evaporated horse blood mixed with small quantities of colloid (dialyzed?) iron and manganese and a "dash" of quassia. The Council declared globeol ineligible for New and Nonofficial Remedies because its composition is semisecret; because unwarranted therapeutic claims are made for it and because the asserted combination is irrational (*Jour. A.M.A.*, Sept. 18, 1915, p. 1046).

Verlie Gatlin Wrinkle Remover.—The Verlie Gatlin Beauty and Wrinkle Treatment was a Denver mail order concern which promised to remove facial blemishes of all sorts and in other ways to make its customers (dupes) beautiful. A

post office fraud order has been issued against the promoters of this medical fake (*Jour. A.M.A.*, Sept. 18, 1915, p. 1047).

The Horowitz-Beebe Cancer Cure.—Dr. J. W. Vaughan, Detroit, Mich., protests against the unauthorized use of his name in connection with the Horowitz-Beebe cancer cure, autolysin. A private letter written one week after beginning trials with the cure of Dr. Beveridge was made to do service as a testimonial in a lay magazine (*Jour. A.M.A.*, Sept. 18, 1915, p. 1048).

Strychnine Not a Cardiac Tonic.—As a result of investigations carried out in the Massachusetts General Hospital at Boston, Dr. L. H. Newburgh concludes that there is no pharmacologic or clinical evidence which justifies the use of strychnine in the treatment of acute or chronic heart failure (*Jour. A.M.A.*, Sept. 18, 1915, p. 1032).

Grant's Epilepsy Cure.—Fred E. Grant, Kansas City, Mo., sells an "epilepsy cure" on the mail order plan. Analysis in the A.M.A. Chemical Laboratory demonstrated it to be a bromide mixture containing as its essential ingredients about 15.8 gm. potassium bromid and 0.9 gm. sodium bromid per 100 c.c. (*Jour. A.M.A.*, Sept. 4, 1915, p. 894).

Micajah's Uterine Wafers and Piso's Tablets.—The A.M.A. Chemical Laboratory has determined that Micajah's Uterine Wafers and Piso's Tablets are practically identical—a mixture of dried lum, borax and boric acid. While Micajah's Uterine Wafers are advertised to the medical profession, Piso's Tablets are a "patent medicine." The claims made to the public for Piso's Tablets are silly and mischievous, but no more so than those made to the medical profession for Micajah's Uterine Wafers (*Jour. A.M.A.*, Sept. 25, 1915, p. 1128).

Episan (Brober).—The Council on Pharmacy and Chemistry finds Episan, recently renamed Brober, ineligible for New and Nonofficial Remedies. Neither name indicates the active ingredients—potassium bromid, 44.3 per cent., borax 41.2 per cent., zinc oxid, 3.68 per cent. and amyl valerate 4 per cent. A physician prescribing the preparation under either name would not realize that he was administering borax, and therefore would not take the precaution to watch the intestines and the kidneys. Also, he would not realize that the treatment was essentially a bromid treatment. There is no evidence to show that borax is harmless, as claimed, or that either borax or zinc oxid is a nerve sedative (*Jour. A.M.A.*, Sept. 25, 1915, p. 1130).

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XIV

GRAND RAPIDS, MICHIGAN, DECEMBER, 1915

No. 12

Original Articles

TUBERCULOSIS IN CHILDREN.*

JOHN B. JACKSON, M.D.
KALAMAZOO, MICH.

In this paper an attempt will be made to discuss the question of what shall constitute sufficient evidence to warrant the diagnosis of tuberculous infection in children. Preliminary to this three closely allied subjects will be considered; (1) The wide spread prevalence of this disease as proved at autopsy; (2) The significance of the tuberculin reaction; (3) The relation of clinical tuberculosis in the adult to infection during childhood.

Medin, at the Stockholm Hospital, reports autopsies on 7,630 children who died during the first year. Six hundred and twenty-three or 8½ per cent. had definite tuberculous lesions. Hamburger in Vienna, in 401 autopsies on children under fourteen found tuberculous lesions in 160 or 40 per cent. Under one, 16 per cent. showed lesions. From one to two, 42 per cent.; from two to four, 59 per cent.; from five to six, 60 per cent.; from seven to ten, 64 per cent.; from eleven to fourteen, 77 per cent. Schmorl in Dresden shows similar figures as to the actual demonstration of lesions at autopsy. Naegeli at Zurich reports 97 per cent. of cases in 500 autopsies of children under fifteen.

These figures are from actual autopsy findings in children dying from all causes and show that tuberculous infection is present in a demonstrable degree in a very large number of children by the time they are fifteen years of age.

There has been a great diversity of opinion among the medical men as to diagnostic importance of the tuberculin reaction. Early users of tuberculin for diagnostic purposes soon discovered that individuals who were apparently healthy reacted to tuberculin. These observa-

tions led to a distrust of the specific nature of the reaction. The use of tuberculin to determine the presence of tuberculosis among cattle soon established the fact that the reaction is specific. Autopsy findings corroborated the reactions. However, it was discovered that many reacting cattle were not sick and if not killed, showed no evidence of disease. The deduction from this is that a tuberculin reaction indicates infection but not necessarily an active disease.

Another observation which further established the specific nature of the reaction is that the percentage of patients reacting to tuberculin bears a definite relation to the ages of the patients. The percentage reacting at the various ages corresponds very closely to the autopsy findings. The older the patient the greater is the likelihood of infection and the more probability of a reaction. New born infants do not react to even enormous doses of tuberculin. Schreiber made observation on forty new born infants and never produced a reaction even with 50 mg. of tuberculin. The new-born infant does not react because he has no infection. Most adults will react to a sufficiently large dose and most adults will have at autopsy anatomical evidence of infection. The younger the child the more value we may place on tuberculin reaction as evidence of recent and active lesion. A Brown says that in his hospital practice 90 per cent. of children under two who show a positive Von Pirquet have active and fatal tuberculosis.

On account of the evident fact of rather general infection during childhood students of tuberculosis have come to associate many cases of clinical tuberculosis in adults with this childhood infection. Hamburger says that tuberculosis may be compared to syphilis and describes a primary, secondary and tertiary stage, childhood usually being the time when primary infection occurs. Baldwin in his recent article on "Allergy and Reinfection in Tuberculosis" reviews the work of Von Pirquet, Roemer, Hamburger and others and concludes "that childhood

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is the time of infection and youth the time of super-infection and that from extension of the primary disease." Pottenger says that "The usual clinical history of patients suffering from tuberculosis when carefully analyzed leaves little doubt that the disease as it presents itself is either a new activity in or an extension from an old focus." There is no doubt that infection during childhood is very general. Theoretical considerations make it seem very probable that these infections persisting are a common cause of adult tuberculosis.

Any cause which lessens the acquired immunity to the organism may result in an awakening of the old infection and the development of an active lesion. Acute infections, exposure, hard work, faulty nourishment, improper sanitary conditions and alcoholism may be mentioned among the factors which have much to do with the lowering of resistance to the disease. The tubercle bacillus is present and only awaits favorable conditions for becoming active and producing serious lesions.

The detection of these early infections and the attempt to do all that is possible in assisting nature to adequately heal them is especially important in view of this theory concerning the cause of tuberculosis in adults. Children with a cough, anemic children, poorly nourished children, those who have frequent fevers, children with enlarged glands or obscure bone and joint pains, in fact all children who fall below the normal standards of physical vigor and continue to do so, should be carefully examined for evidences of tuberculosis.

History of family tuberculosis or tuberculosis in the household is of great value. The younger the child the more easily the source of infection may be found. In infants the infection can usually be traced directly to another case. As the child becomes older and gets about on the floor, the sources of possible infection becomes more numerous and consequently the actual source is less easily determined. Children who are not doing well and who give a history of exposure should be strongly suspected of tuberculosis.

Frequent observations of pulse and temperature should be made in suspected cases. Frequent elevations of temperature and rapid pulse are often evidences of a tuberculous focus. Unless other definite causes for a chronic toxemia can be demonstrated, tuberculosis is the most probable cause. Single office observations of pulse and temperature are of little value.

Physical examination must of course be given

the first place in determining tuberculosis in children. Such examinations should be made with a full appreciation of the different anatomical locations that are possible, glands, both deep and superficial, bones, joints, lungs, pleura, peritoneum, genito urinary organs, meninges and other parts of the body. If such an examination is made lesions can be demonstrated in the great majority of these children in whom we have other reasons for suspecting tuberculosis.

The Von Pirquet reaction must be given much consideration in childhood. Until two or three years of age a prompt reaction to tuberculin must be well nigh conclusive evidence of active tuberculosis. In older children reactions that are prompt and marked must be recognized as of great importance in diagnosing these cases. They indicate tuberculous infection and in a child who is not doing well and in whom no other definite disease can be located, tuberculosis is the most probable cause of the debility.

The X-ray is of great value in the diagnosis of tuberculosis of the chest, bones and joints. In children who do not give history of pneumonia or empyema, tuberculosis is the most common cause of deposits in the lungs.

Demonstration of bacilli is of course the most certain sign of tuberculosis. This is a sign that is not frequently found in children. If one makes this the *sine qua non* of diagnosis in children few early diagnoses will be made.

A child who is not doing well, who gives a history of exposure to tuberculosis, who has frequent elevations of temperature, who has demonstrable physical signs, who gives a positive Von Pirquet, who has X-ray evidences of the disease and in whom tubercle-bacilli may be demonstrated may be safely said to have tuberculosis in a clinical sense. How many of these signs may be eliminated and still allow us to be fairly sure of our diagnosis? The demonstration of the bacilli we may safely leave out of this evidence. Extensive disease of the lungs, pleura, bones, joints, glands, or genito-urinary tract may permit the demonstration of the bacilli, but we must certainly not wait for this. X-ray evidence while of great value should not be waited for in making a diagnosis. Considerable tissue change must take place before the X-ray will show the abnormal shadows. While a definite history of exposure as from a tuberculous father or mother may be of very positive value in deciding a given case surely the absence of such history must have a very negative value. In the great majority of cases

of tuberculosis after the second year, the source of infection is not apparent. Certainly the possibilities of a child coming in contact with tubercle bacilli are many.

The question has been raised as to whether we may make a diagnosis of tuberculosis before the appearance of definite physical signs. Is it permissible to make such a diagnosis in anemic, poorly nourished children who have elevation of temperature and who give a positive Von Pirquet? Such cases are frequently called pre-tubercular or are said to be threatened with tuberculosis. It would seem that these cases are usually cases of infection with tubercle bacillus and should be treated as such. Such cases show remarkable gain when put under favorable conditions. A great many such cases have been found in our Kalamazoo Dispensary and placed in the Open Air School. Their improvement has been gratifying in the great majority of cases.

The greatest single consideration in the study of tuberculosis in childhood is that of immunity. If children become immunized by accidental infection beyond our control, why should not immunity be obtained by controllable means? Vaccination holds out the greatest hope for the future. The laboratory must determine the safest procedure. In conclusion I wish to quote again from Pottenger. He says "Personally, I believe that the prevention of tuberculosis will come through vaccination and, if I interpret the work of our leaders rightly, such a desideratum is not as far off as many believe. The experimental studies of immunity made by such men as Koch, Behring, Maragliano, Wright, Roemer, Wolf-Eisner, Calmette, Spengler, Trudeau, Von Ruck and others and the very interesting reports by the use of the living bacillus made by Webb are blazing the way for one of the greatest boons to the human race, the production of a positive immunity."

MILIARY TUBERCULOSIS OF THE LUNGS IN THE SENILE PERIOD.*

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In view of the quite general campaign which is being waged so vigorously against tuberculosis it has seemed expedient to me to call attention to a source of danger which is not generally recognized, that of miliary tuberculosis of the

lungs in the senile period. So little mention has been made of the subject by text book and magazine writers that when I first began to find in my post mortem work a diffuse miliary condition in the aged I regarded the cases as rare, but as time went on and the number increased it occurred to me the condition was much more common than was generally suspected and therefore a great source of danger from its lack of recognition and from the housing up and close contact with other members of the family which the age of the patients would necessitate. The very high percentage of deaths from tuberculosis during early life leads us to think of it as a disease of young adults. It has been estimated that nearly one-third of those who die from it are between 15 and 40 years of age and that the total deaths between 40 and 60 years of age are only one-half what they are between 15 and 40; yet when estimated on the basis of 1,000 living at those two decades we obtain practically the same percentages and upon the same basis it is twice as high for those of 65 as for those under 20 years of age. Of the very few writers who have given any definite statistics as to the frequency in the senile age Barré of Paris found 2.29 per cent. of cases 60 years old or more in 92,141 deaths from phthisis in ten large hospitals during the years 1884-1893 and Hawes in a recent paper on the subject found 1.08 per cent. among 6,832 consumptives in the four Massachusetts State Sanatoria during the last four years. The disparity between the two sets of figures is accounted for in the difference in the basis for calculation. That the percentages of Barré and Hawes do not give us even an approximate idea of the frequency of the condition in the aged is evident from the fact that it is so rarely recognized that a minimum number of those really suffering would be given the care of sanatoria, or among those sent to the general hospitals a complicating cause would probably gain admission and only at autopsy would the lung trouble be recognized.

Pulmonary tuberculosis in the elderly is diagnosed less frequently than at any other period on account of its chronicity, the absence of symptoms usually accompanying it, the rather common presence of chronic bronchitis, emphysema or cardiac coughs which it is so often mistaken for. Stoll in 1912 in reporting seventy-four cases over 60 years of age lays emphasis upon the chronicity of the disease, citing cases which had become infected thirty-two and thirty-eight years previously, or possibly even in childhood, extending over long years with pe-

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riods of arrest when the symptoms were more or less in abeyance, and which had been diagnosed grippe, malaria, chronic coughs, asthma, etc., but which upon careful examination presented the physical signs of lung tuberculosis, being confirmed at autopsy. Hawes also believed the condition was a continuing or awakening of an old tuberculous focus and therefore a chronic one. Barré and Hart while recognizing the possibility of its resulting from the awakening of hitherto quiescent lesions laid great stress upon its being a sequel of chronic bronchitis or bronchiectasis. Mascher believed it to be rarely a primary infection but the result of a previous inflammatory condition. That it should escape diagnosis from a difference in the clinical picture at an earlier period in life is only too evident since fever is rare, night sweats are usually absent, constitutional disturbances are slight, physical signs are often masked by emphysema or asthma, loss of weight and weakness are of little clinical value for they belong to the period we are discussing, cough and shortness of breath are the most prominent symptoms and these are attributed usually to chronic bronchitis and emphysema, rarely is the sputum examined for it is usually accounted for by the chronic cough.

My present work is based on the autopsy material and the clinical cases giving positive physical signs during the last two and one-half years in the Kalamazoo State Hospital for the Insane. While it is true that the defective functions and nutrition of those suffering with the true psychoses predispose them to tubercular infection 30.7 per cent. of the seniles giving positive lung findings at autopsy suffered from psychoses not considered especially predisposing to infection. Institutional care has also been considered an important factor in the past but our modern institutions with their facilities for fresh air and for the detection and prompt isolation of infected cases have reduced the institutional life as an etiologic factor to a minimum. Of my positive autopsy cases 30.7 per cent. had an average residence of one year and two months, or 53.8 per cent. had an average residence of three years and one month; in view of the long course that Stolle, Barré and Hart give to the disease with its early source of infection the hospital residence in these should have had little bearing on their condition, except possibly to aggravate it, as they probably entered the institution with active foci or at least quiescent ones.

Considering 60 years as the beginning senile period there were among the autopsy material

seventy-nine case over 60 years of age; of these thirteen or 16.4 per cent. of the seniles showed a more or less diffuse miliary condition of the lungs; seven of the thirteen also showed a generalized condition as seen in the involvement of the mesenteric glands, liver, kidneys, etc. The thirteen cases ranged in age as follows: From 60 to 64, one case; 65 to 69, four cases; 70 to 74, five cases; one case 76; one 81 and one 83. Clinically five of the thirteen cases gave physical signs of a tubercular involvement, two were diagnosed emphysema, one chronic bronchitis and five gave negative chest findings. Four of the thirteen had positive sputa, no records of an examination were obtained in the remaining nine cases. One case ran a slight temperature which reached 104 before death, due to a tubercular pneumonia; one ran an occasional temperature which did not go above 100 degrees, eleven gave no histories of temperature. Five cases had negative family histories of tuberculosis, no information was obtained in eight cases. At autopsy three cases showed a diffuse involvement of the left upper lobe, two of the right upper lobe, three of both right and left upper lobes, one of the right lower lobe with a tubercular involvement of both submaxillary glands, three a diffuse involvement of both right and left lungs and one tubercular ulcers of the larynx. This last case does not properly belong among the group but as a source of infection from the respiratory tract I have included her since it is the danger of these patients to others that has compelled me to collect together the facts in regard to them. She also had a tuberculous condition of the peribronchial and mesenteric glands and the kidneys; that there was no extension into the lungs was probably due to a more or less acute condition since in protracted cases of laryngeal tuberculosis the lungs never escape. Macroscopically the lung tissues of twelve cases showed numerous tubercles and caseous masses ranging in size from a few millimeters to several centimeters, scattered between which were pustular or clean cut cavities. There were also seen small dense nodules of scar tissue devoid of giant cells or bacilli and occasionally areas were found surrounded by fibroid capsules, containing caseous and rarely partly calcareous material in which it was possible to demonstrate viable bacilli. In three cases only were there signs of an inflammatory reaction in the tissues surrounding the lesions, in two moderate in degree, in the other rather marked. This lack of reaction could be largely accounted for by the fibrous character of the senile tissues, to

which was also most probably due the chronicity of the process; whatever grew, grew slowly in such poor soil. From the pathology of the lungs we can readily understand the absence of constitutional symptoms. In ten cases there was no enlargement of the bronchial glands, in two there was moderate enlargement, in one, the laryngeal case, considerable enlargement. Among the clinical cases in the house during the past two and one-half years thirty-two were over 60 years of age, making a percentage of 28.5 of all cases showing a lung tuberculosis. These figures cannot be compared with those of Barré or Hawes as theirs included cases under 20 years of age which considerably reduced their percentages; none of mine were under 20, but my findings make prominent the fact that a startlingly large number of seniles show an acute lung condition. Moreover in institutions such as my cases are taken from a larger number of seniles are collected together than are usually found in a general hospital or even in a sanatorium, for the mentally normal can be cared for at home, hence statistics based on seniles alone would give a truer percentage in state institutions than in the above hospitals. What bearing the length of residence in the institution may have had on the infection in the clinical cases may be judged from the fact that one case has been in the hospital only two months, another five months and still another six months and 50 per cent. of the total number two years and six months, rendering rather doubtful the hospital as a source of infection. The thirty-two cases range in age as follows: 60-64, eleven cases; 65-69, eight cases; 70-74, four cases, 75-79, five cases; 80-84, four cases. Among these not more than five or six have shown temperatures, of rather low range and not constant. The appetites have been remarkably good for the age of the patients. Nineteen give positive chest findings, five show only a few rales and eight nothing but coughs aside from the positive sputa. A family history of tuberculosis has been obtained in two cases, negative in eight and unknown in twenty-two. Twenty-five cases give positive sputa, two show no tubercle bacilli upon two examinations each, and in five cases diagnosis had been made upon the chest findings alone, the sputa not having been examined.

This leads us directly to the danger of contact with these patients. Hart held the disease was chronic in course with a tendency to healing by the formation of fibrous tissue and with only a slight tendency to dissemination, the organisms showing an apparent reduced vir-

ulence. Squires takes an opposite view considering the disease slowly progressive and the sputa a constant course of danger. My own experience has been that the sputa, as a rule, contained numerous tubercle bacilli staining with their characteristic activity and not the attenuated or involutional forms; moreover the lesions found at autopsy in the twelve cases were progressive in appearance, healed lesions, quiescent lesions and active foci being seen; films from the purulent cavities showing unusual numbers of bacilli; the entire pathology indicating a slowly progressive process extending over years. When we realize the carelessness of the aged in expectorating and in the lack of cleanliness of their hands they must necessarily be a source of great danger, especially in the families of the poor where they are housed up and usually the caretakers of the children. Stoll cites a case which contracted the disease from her father 65 years of age and she probably infected her daughter who died with tuberculosis. Another patient of his over 60 years of age had been diagnosed chronic malaria but at autopsy showed a tubercular infiltration of both apices and of the parietal pleura; the son and daughter-in-law with whom the patient lived both had active pulmonary lesions, and from the chronicity of the symptoms in the father and the more acute course in the children Stoll concluded the former had most probably infected the latter. I have personally known of three healthy young adults who had the care of a large ward for old people, many of whom had chronic coughs and two a frank tubercular process, who developed an acute lung tuberculosis. It seems to me too much emphasis cannot be laid upon its contagiousness, especially during the periods of acute flare ups which are seen in the chronic course.

The diagnosis is especially difficult since chronic bronchitis, asthma or emphysema so often mask the lesions. The X-ray is of value but to those living in small towns and to the poor it is not available. Stoll lays considerable stress on d'Espines' sign, especially when the whispered bronchophony is heard down to or below the level of the fifth dorsal vertebrae, he considers it questionable in adults when it is heard only over the upper three or four dorsal spines. On the other hand Hawes considered it of little value holding that we could hardly expect much glandular enlargement from the nature of the process. My autopsy work confirms Hawes' view. In ten cases there was no glandular enlargement and the sign

would have given negative results, though the lungs were markedly involved; in two cases the glandular involvement was so moderate it is doubtful if a whispering bronchophony would have been obtained. Stoll also considers a cough severe enough to cause gagging of importance in diagnosing; in 169 cases he found that cough followed by gagging occurred twice as often with tuberculosis as with all other diseases combined, pertuesis excepted; finding it especially common in patients presenting signs of bronchial gland enlargement. Examination of the sputa seems to be the most reliable means of diagnosis and should be more generally practiced in those suffering with a cough extending over years or in those subject to chronic bronchitis or asthma; moreover in all families in which there are young tuberculous subjects the elderly members with coughs should have sputa examinations.

It is quite generally conceded that treatment of these aged patients necessarily differs from that of the younger and more vigorous adult. In the State Institution all tuberculous patients regardless of age are isolated in open air shacks and given a generous diet consisting largely of milk and raw eggs. Whether it is the return to a dietary more suitable to their age or whether it is the fresh air it is difficult to say but the senile cases seem to thrive, a fairly large percentage gaining in weight, being apparently more comfortable than when housed up in the wards. Several have shown an amelioration of physical symptoms with a disappearance of bacilli from the sputum. Treatment in the home would depend largely upon the mental make-up of the case; many are like children and cannot be sent away from the home on account of the depressing influence of the strange surroundings; moreover it is very doubtful if the high altitude of the sanatorium would be well borne in view of the cardio vascular changes so common at this period of life; to keep the patient warm and free from rheumatic pains and yet give them sufficient fresh air in the damp climate of the average sanatorium would also be a problem. Squires advises a warm dry climate and small doses of iodide of potassium and his treatment might be carried out with those cases whom financially and mentally it would be possible to transport from the home surroundings; otherwise treatment should aim to minimize the danger of the patient to the other members of the family by careful hygienic methods, to keep them as warm as possible with the maximum amount of fresh air, with a return to a dietary more suited to their

age, milk and raw eggs being its chief constituents. Whether permanent cure is possible is rather doubtful. Hart's belief that there is a tendency to healing by the formation of fibrous tissues is not borne out by my autopsy material. It is true that a fairly large number of seniles showing no acute foci had old fibrous or calcareous lesions of both lungs and pleurae and occasional clean cut apical cavities but whether these were healed lesions of the senile or earlier period it is impossible to say from their case histories. The most sensible plan is to consider aged patients always a source of danger for favorable conditions may cause a recrudescence in a quiescent focus with a rapid dissemination of bacilli and danger to those in contact with the patient.

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ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF PULMONARY HEMORRHAGE.*

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One of the most alarming symptoms of pulmonary tuberculosis is hemorrhage, which is frequently a cause of great anxiety to both physician and patient. Although a discharge of blood from the mouth may be due to other causes, such as valvular heart lesions, bleeding from the nose, throat and mouth, and although the laity and many physicians frequently try to explain it as coming from some other source, in the great majority of instances haemoptysis is due to pulmonary tuberculosis and all such cases should be considered tuberculous in nature until they are proven to be otherwise.

According to Lawrason Brown, 90 per cent. of all cases of haemoptysis are shown sooner or later to be tuberculous, and Cornet states that "All in all, one does not err in considering pulmonary hemorrhage to be of a tuberculous

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nature, although hemorrhages do occur in certain other diseases."

Some authorities consider the effect of haemoptysis to be beneficial in the early stages of tuberculosis, if not frequently repeated, and I have known patients to experience a good deal of relief after losing a slight amount of blood and actually date their recovery from that time.

If the hemorrhage is the initial symptom, it is often a most fortunate thing in that without it the case might remain undiagnosed until an advanced stage was reached.

The source of the hemorrhage can often be determined by the appearance of the blood. If from the gums, it is slight in amount, is coagulated and may be diluted with saliva. If from the nose or throat it may be mixed with mucus. If from a pulmonary vein the blood will be bright red and more or less frothy; but if from a branch of the pulmonary artery, in which case a cavity is usually present, the blood will be dark in color, frothy and more or less coagulated.

A profuse hemorrhage seldom occurs when no cavity is present, although I recently saw a case wherein there were three hemorrhages, with a loss of over a pint of blood within two and a half days, in which neither physical signs nor the X-ray could demonstrate a cavity. Babcock states that blood from a source above the lungs is not accompanied by cough, while pulmonary hemorrhage is invariably accompanied by more or less cough. The amount of cough, however, may be quite slight.

While the *immediate* death rate from pulmonary hemorrhage is low, the indirect mortality is exceedingly high. They are occasionally a cause of sudden death, but the principal source of danger, apart from the depression of spirits and exhaustion due to the loss of blood, lies in the rapid dissemination of tubercle bacilli into healthy areas.

In case the blood with which the diseased lung, and often the opposite healthy lung, is flooded does not contain tubercle bacilli, the resultant lobar or broncho-pneumonia may not be of a tuberculous nature and the patient may recover. But the writer's experience has been that when after a severe pulmonary hemorrhage a sudden rise of temperature occurs on the second or third day, accompanied by dyspnoea and cyanosis and persisting without remission, with the physical signs of lobar or broncho-pneumonia in fresh areas of the lung, the disease process is found to have been greatly aggravated by the haemoptysis and the result has been

almost uniformly fatal. In case the haemoptysis is not followed by an increase of fever or other untoward symptoms, the patient may experience no unfavorable results whatever from the hemorrhage.

In early cases the physical signs of hemorrhage are usually slight and it is at times impossible to locate the site of bleeding. But in late cases, which are the ones in which severe hemorrhage usually occurs, more or less infiltration with one or more cavities is usually present and the determination of the source of bleeding is usually not difficult.

Dr. Ethan Gray of Chicago called my attention to the fact that in an advanced case in which a cavity has become filled with coagulated blood, there may be more signs of moisture in the opposite healthy lung which has been flooded with blood, giving rise to many coarse moist rales. But even in such cases it should not be difficult to determine which of the two lungs is the seat of the most advanced lesion and therefore the probable source of the hemorrhage.

That there are no drugs which are at all reliable in checking a severe pulmonary hemorrhage is shown by the large number which have been suggested in the past for this purpose and which are little if any used at the present time.

In all cases, even of very slight haemoptysis, the patient should be put to bed and maintain complete mental and physical rest. A small amount of morphia may be given hypodermatically to quiet nervousness and excessive cough. While the morphia is useful in moderate doses, it should not be given in sufficient amount to prevent some coughing, which is necessary to expel blood from the bronchi, or to prevent free evacuation of the intestinal canal with Epsom salts, which should be given in doses of one ounce in as little hot water as possible every six hours until effective. An ice bag should be placed over the heart and the diseased area and the patient assured that he is in no immediate danger.

All stimulants should be avoided. The patient should be given cold liquids such as milk, beef tea or malted milk at regular intervals and be kept in bed at least a week after all blood has disappeared from the sputum. At the end of two or three days solid food may be added to the diet.

For the purpose of promoting coagulation of the blood, horse serum or fresh rabbit serum or calcium chloride may be administered. The former certainly has a coagulating influence on the blood and is much recommended by several

authorities. The horse serum may be given in the dose of ten to twenty cubic centimeters hypodermatically every twelve to twenty-four hours until results are produced, up to six or eight doses. Calcium chloride administered hypodermatically is much recommended in Vienna and I have used it in two cases of severe hemorrhage. In one case it was without effect and collapse of the lung became necessary. In the other it seemed to be of considerable use, the coagulation time of the blood being reduced from fifteen to eight minutes.

Of all the drugs that have been advocated for the control of pulmonary hemorrhage the nitrites rest upon the firmest scientific basis. In a large number of experiments during which forty or fifty of the most highly recommended drugs for the control of pulmonary hemorrhage were used, Macht found that the nitrites were the only drugs which produced contraction instead of dilatation of the pulmonary arteries. These unexpected results have been corroborated by other experimenters, such as H. C. Wood. Amyl nitrite, therefore, may be given on the appearance of a hemorrhage, followed at once by the hypodermic administration of one one-hundredth grain of nitroglycerine, this to be followed by two grains of sodium nitrite every two hours. At times this acts promptly and efficiently.

A drug which I have found to be useful in large pulmonary hemorrhages is atropin, suggested several years ago by Dr. Babcock of Chicago. In doses of one thirty-third to one twenty-fifth of a grain hypodermatically I have seen it check a large hemorrhage almost instantaneously. Its paralyzing effects on the bladder and bowels should be remembered and it cannot be often repeated.

If prompt relief is not secured from the measures already enumerated, especially if the hemorrhage has recurred several times, an artificial pneumothorax should be at once performed. When the source of the bleeding is located and compression is not prevented by extensive adhesions, the hemorrhage is promptly checked by lung compression, even in cases that have resisted all other methods of treatment. When the adhesions are numerous or the pleura markedly thickened or the lung in a state of fibroid induration, a complete pneumothorax cannot be produced and theoretically but little effect could be looked for. Such cases, however, should always be given a trial, as unexpected benefits are frequently met with.

Dr. Ethan Gray of Chicago has successfully

treated twenty cases of haemoptysis by lung compression. In two of these the cavity signs persisted even after the injection of 1000 cubic centimeters of nitrogen, but in each case the hemorrhage was controlled. In two of my cases the signs of cavity persisted, though in a lesser degree, but the collapse secured was enough to control the hemorrhage, so that complete collapse of the lung is not always necessary.

The experience at Bellevue Hospital in New York in which a series of over fifty cases of pulmonary hemorrhage have been treated by this method shows some very striking results.

Practically all operators agree that we have in this operation a certain measure for controlling pulmonary hemorrhage and in the seven cases in which the writer has used it control of the hemorrhage was immediate and complete and permanent. In four of them most of the measures spoken of had been resorted to and the hemorrhage seemed to be uncontrollable.

Lung compression, therefore, may be indicated in any severe pulmonary hemorrhage and should be made as soon as possible to forestall a fatal broncho-pneumonia. Even if the patient has safely withstood one or two large hemorrhages, the advisability of collapse should be considered for the purpose of preventing further attacks with their possible dangerous consequences.

One thousand cubic centimeters of nitrogen may be introduced at the first filling. Later more may be injected, depending upon the symptoms. With a perfect technic the dangers are practically nil. Gray believes that in order to prevent a return of the hemorrhage later the lung collapse should be maintained for at least four months.

Alarming complications frequently follow an extensive hemorrhage such as sudden rise of temperature, rapid pulse, extension of the infiltrated areas and softening of lung tissue. Where one sees such a case for the first time it is not always possible to tell whether the acute broncho-pneumonic process has existed for some time or whether it followed the hemorrhage, in which case, while the bleeding might be controlled, the alarming symptoms would continue and the case proceed to a fatal termination. If the case continues to decline this must not be attributed to the pneumothorax but to the previous condition. The operation can do no harm and the life of the patient may be saved.

If, however, the case seems to be suitable for the continued use of lung compression for the

purpose of curing the disease, the treatment should be continued for an indefinite period to bring about fibrosis.

In a case of hemorrhage one must not be deterred from collapsing the lung by the finding of some disease on the opposite side. Osler states that when the amount of disease in one lung is sufficient to produce changes enough to be recognizable on physical examination, the other lung is already affected. Theoretically the proper case for compression is one in which the opposite lung is entirely healthy. But such cases are almost never met excepting in the incipient stage when hemorrhage rarely occurs.

In the judgment of most men incipient cases are not considered suitable for artificial pneumothorax. Some authorities who have had experience with lung compression in such cases report that they have rapidly terminated in recovery; and as our experience increases it is possible that incipient cases may be more frequently treated in this manner.

Acute, active, rapidly advancing phthisis, often called acute galloping consumption, is stated by some authorities to be unfavorable for pneumothorax. Two of the writer's cases, however, were of this character. Without doubt both would otherwise have rapidly terminated fatally. In each instance complete collapse of the lung was effected and an entire absence of active symptoms was secured in from four to six months of treatment.

It seems to be well established that artificial pneumothorax should be tried in two classes of cases:

I. The advanced case which is going on *rapidly* to destruction.

II. Advanced cases in which it is evident that recovery will not take place and which are continuing *slowly* towards a fatal termination. If in these cases enough sound lung tissue is left in the opposite lung to keep up aeration artificial pneumothorax offers a good deal of hope to the patient.

Courmot removed three-fourths of the lungs of animals without producing death and all but one-sixth of the lungs of a dog can be collapsed by artificial pneumothorax without killing him. English writers state that artificial pneumothorax may be performed if two-thirds of the opposite lung is sufficiently healthy to carry on the function of respiration. Hence many bilateral cases in which even active disease in the untreated lung is limited to the apex will often show satisfactory improvement

after being subjected to this form of treatment.

A patient in any stage of disease, if markedly unilateral, should have the benefit of artificial pneumothorax if marked improvement is not shown within a reasonable time with the usual methods of treatment, even in cases in which considerable disease is present in both lungs.

If in a bilateral case it is not possible to determine which is the primary focus of disease and which is the secondary one, the side showing the most marked and extensive disease is the one to be collapsed, if the other lung contains enough healthy tissue to carry on the function of respiration. But if neither of the lungs are extensively involved, the collapse must be produced on the side which shows the most active lesion or which contains a cavity. The collapse of the side which was primarily involved and in which the most advanced lesions are found often produces such a marked diminution in the absorption of toxins that a speedy improvement in the cough and expectoration follows, the temperature becomes lower, the pulse rate is reduced and the side which is the seat of secondary involvement is very much benefitted in a short time.

As Von Adelung says "In this procedure we are following Nature's footsteps, securing physiologic rest in a disease in which the value of rest is amply demonstrated; and if we are squeezing infective material from the lung, encouraging fibrosis, discouraging hemorrhage, lessening toxemia and ridding the sputum of tubercle bacilli (all of which seems to be proved), then one queries why this treatment is not applicable to early cases."

In three of the writer's seven cases in which artificial pneumothorax was used for the control of severe hemorrhage, the treatment was continued for curative purposes as follows:

Mrs. C., aged thirty, has had chronic phthisis for nine years during which time she has had the usual exacerbations and remissions peculiar to such cases. In July, 1913, she had two severe pulmonary hemorrhages and expectorated more or less blood throughout the summer. Physical examination and the X-ray showed an advanced lesion involving the entire left lung with a less advanced one in the right. The upper left lobe contained a cavity below the outer half of the clavicle near the anterior thoracic wall and another at the apex near the posterior wall. Scattered infiltrated areas were found throughout the lower lobe with many resonant rales. Kroenig's isthmus was contracted from seven to two and a half or three centimeters. Owing to the advanced fibrosis on the left side, the percussion note of the right lung extended one inch or more to the left of the medium line. The heart was con-

siderably displaced to the left. The introduction of 800 cubic centimeters of gas produced an immediate cessation of haemoptysis and although only a partial collapse was effected there was no return of the bleeding. The lung was kept collapsed for six months. The cavities have almost entirely disappeared, the opposite lung shows a good deal of compensatory hypertrophy occupying a much larger portion of the chest cavity than normal, with breath sounds over its entire area and with full expansion up to its borders. The heart, which during the period of compression was pushed over to the right, is now in apposition with the chest wall in the anterior axillary line, due to contraction in the left lung. The general condition has improved wonderfully, the cough and expectoration almost entirely disappeared, the patient has gained in weight and is now (at the end of a year and a quarter after the cessation of treatment) in as good condition as is possible during the process of contraction which is taking place and which usually extends over a period of several years. She took an automobile ride of 200 miles in one day during the summer without becoming unusually fatigued.

CASE II. Mrs. F. C. W., aged 57. Always in good health until July 1, 1914 when she began to cough and rapidly declined in health. A diagnosis of pulmonary tuberculosis was made and she went to a Sanatorium September 17. Her progress downward was rapid, she lost ten or twelve pounds in weight and was confined to bed constantly. October 1 she had a severe hemorrhage and another October 22. Her pulse was rapid, temperature reached 100 to 103 each day. As her case was considered to be a hopeless one, she was advised to return home which she did November 29. When I first saw her, December 4, she weighed eighty-three and one-half pounds, had a pulse of 130, a fever of two to four degrees each day and a daily expectoration of from three to four ounces. The upper lobe of the left lung was consolidated with signs of a large cavity. The lower lobe also contained scattered areas of infiltration. The apex of the right lung showed slight infiltration. The remainder of the lung seemed normal. As her sputum again became tinged with blood and we all feared the results, in her weakened condition, of another hemorrhage, I introduced 500 cubic centimeters of nitrogen into the pleural cavity December 11, 1914 and followed this up at short intervals until a fairly good collapse of the lung was secured. There has been at no time any return of hemoptysis.

The patient's improvement was immediate and continuous. At the present time she weighs ninety-seven and one-fourth pounds which is as much as she has weighed in a good many years. Her sputum is reduced to one quarter ounce per day, temperature and pulse are practically normal, and she was well enough to take a ten mile automobile ride a week ago for the purpose of having an X-ray picture of her chest taken.

CASE III. Mrs. H. D. W., aged 25. In 1909 had some tuberculous glands removed from her neck. In 1911 expectorated less than a teaspoonful of blood, but was not at all concerned by it as she thought it came from her throat. Always felt strong and well until the birth of her first baby in February, 1914. Did not regain her strength, caught a cold and

began to cough. Two weeks later, on April 11, she had her first hemorrhage and from then until May 27 she had twenty-four attacks of haemoptysis varying in quantity from a tablespoonful to four ounces. There were more large than small ones. The expectoration was two ounces per day before her first pneumothorax operation. She was well nourished, was very weak, had considerable degree of anemia, pulse from 130 to 150, and temperature reached 101 to 103 each day. The upper lobe of the right lung was infiltrated, with two considerable sized cavities. Inasmuch as calcium chloride, coagulin and several other methods for checking pulmonary hemorrhage proved unavailing, and although cases of acute pneumonic phthisis are stated by some operators to be unsuited for artificial pneumothorax, with the assistance of her physician, Dr. R. J. Walker of Saugatuck, on the 27th of May I succeeded in injecting without trouble 1000 cubic centimeters of nitrogen into the pleural cavity. The hemorrhage was at once controlled and there was at no time thereafter any return of bleeding. She received in all twelve injections of gas between May 27 and August 19, most of which were given by Dr. Walker. She remained in bed until September when she returned to her home in the vicinity of Chicago and was put in the care of Dr. Ethan Gray who introduced 100 cubic centimeters of gas September 29, 60 cubic centimeters March 6, and 100 cubic centimeters March 30, 1915. During the spring she developed a sero thorax.

At the present time the patient is in splendid physical condition, is up and about attending to her usual duties, has no cough and but very little expectoration repeated examinations of which have been negative, has a normal pulse and temperature and weighs 148 pounds.

Based as it is upon sound clinical and pathological observation, artificial pneumothorax has become a well established therapeutic measure in the treatment of pulmonary tuberculosis. Clinical experience all over the world has proven its value and thousands of cases which were otherwise doomed to die have been saved by this operation.

DISCUSSION.

DR. A. W. CRANE, KALAMAZOO: I have been interested in Dr. Johnston's work on pneumothorax. It seems to me a matter of very great importance, and his results have been so brilliant as to doubtless influence a great many physicians to use this method. Personally, however, I have not happened to have any experience with it. At one X-ray meeting in Chicago, I saw a very large number of slides given where the pneumothorax had been governed by the X-ray observation, and incidentally it came up that the results of the pneumothorax treatment had been satisfactory and that, properly applied, it was one of the most efficient therapeutic means at our command. I remember among the first good X-ray demonstrations of lung lesions which I saw years ago, one was in connection with a paper by Dr. Murphy given in Denver. He had employed the method of injections into the lung, and the paper at that time made a great sensation, but later the treatment seemed to have fallen into disuse. I think Dr. Johnston has been instrumental in reviving the use of this treatment throughout the country. I was especially interested in what Dr. Johnston said about the control of pulmonary hemorrhage by means of the nitrites. It was new to me that the nitrites cause a contraction of the pulmonary vessels, while they cause dilatation of the vascular system throughout the rest of the

body. If this is true it would seem to be the ideal drug to be given in such cases.

In regard to the other papers on tuberculosis, the general summing up contained in Dr. Johnston's paper covers the whole subject, and the indications for the diagnostic use of tuberculin I never have heard better put. We can rely on it as a means of detecting the presence of tuberculosis, but certainly it requires very careful interpretation to judge from its use whether or not we have an active lesion of the disease.

DR. E. L. EGGLESTON, BATTLE CREEK: For some years we have been promising ourselves that the time would soon arrive when tuberculosis would cease to exist. We saw new methods of handling these cases, and the cure would take place in practically the large majority of cases except those in the far advanced stages. Now the later statistics are rather depressing to see, and we find that we have not accomplished as much as we anticipated. It has now been shown by some observations that over 70 per cent. of all children that have been in homes where tuberculosis has existed have become infected, and these 70 per cent. are all possible cases of tuberculosis. Now it is true that they may not develop tuberculosis actively, but they are all possible cases. Now, unless there is some possibility of immunizing these cases it does not seem to me that we have accomplished very much, or we will accomplish very much in the next years to come. But if there is a possibility, as has been intimated by Von Rucke and Pottenger—although these men have been rather severely assailed because of their statements along this line, I believe—but if there is a possibility by means of vaccination of immunizing these cases of young people or infants that have been known to have been infected, by being brought in close contact with the disease, then it seems to me that there is a possibility of blotting out this dread disease. It seems to me that the medical profession must do more than they have done, they must find out these cases that have been infected, and these must be thoroughly examined and re-examined and if there are any indications at all as shown by the Von Pirquet or other tests—if there are any symptoms at all of activity, then it seems to me that active measures should be employed.

My observation of the use of tuberculin is that it is certainly of value. I have seen a number of cases treated in the past two or three years where the results have been very encouraging. In fact, it seems to me, that it warrants more attention from us than it has received.

DR. R. B. HARKNESS, HOUGHTON: I want to congratulate Dr. Johnston upon having placed the Von Pirquet reaction upon a very definite basis. I think the majority of men regard it too highly and he has lined it up very nicely; that is, he has stated that it has a very definite value up to four years, it has a significance up to about twelve years, and it has no significance later when it is positive, but a very definite significance when it is negative.

In the matter of diagnosis, I think that perhaps he does not give enough credit for the X-ray as a method of diagnosis. I happened to be with Dr. ——— when he was working this up with Hamburger, and he has perfected very greatly the use of the X-ray in diagnosis and found that with an intensifying screen an exposure of about one-twentieth of a second showed changes in the lungs of children when they are very minute, and as a method of diagnosis and as a method of practice in the physical examination of children it is extremely valuable; that is, if an X-ray is taken of these children and kept for record. The child is gone over for physical signs and the X-ray is taken and you observe your mistakes when it is compared with the X-ray; then you keep a permanent record of this plate and go over the page as many times as possible, and physical findings which at first seem absurdly small have a very definite significance in children. The X-ray, from being a plaything in the diagnosis of tuberculosis of children, has become a very valuable means of diagnosis, only it is not fully used or appreciated.

DR. BENJAMIN A. SHEPARD, KALAMAZOO: Several of the speakers have congratulated Dr. Johnston upon this paper and I think that ought to be turned around a little; I think that we are to be congratulated in having Dr. Johnston in our midst. I believe he has done as much as any other man in this vicinity to encourage the early diagnosis of tuberculosis, and I have seen considerable of his work. There are some things I wish to emphasize. Dr. Johnston spoke of the history being important, and this cannot be emphasized too strongly. Often it is the history alone that will put us on the track of the disease, so we will not too soon dismiss the case without more thorough investigation.

In regard to the Von Pirquet test, I never can let that go by without challenging some of the statements. In regard to the statement that it is good up to twelve years, I would add eighty-eight years to that at least. The Von Pirquet test, or

any other tuberculin test properly used will give information almost any time, or may give us information almost any time. The proper interpretation of a Von Pirquet test, upon that depends its value. The mere presence of a positive tuberculin test is of little value, it is the kind of reaction that you get—that is my opinion, at least. I do not believe that we ever see a marked Von Pirquet reaction in an old healed lesion; at least, I have given several hundred of them and I believe that I have yet to see the first real marked positive Von Pirquet in which there is an active lesion that could be demonstrated.

The examination of the sputum—of course, if it is positive it is very important, but a negative finding in any sputum means little. It means if we do get it that we have got an advanced case; that the tissue is breaking down and germs are being thrown out into the bronchi—that there is sloughing tissue and the tissue has been there a long time, unless in some rare cases it is almost accidental.

As to the use of potassium iodide in tuberculosis, in most cases I believe it is contraindicated. Potassium iodide tends to break down freshly formed fibrous tissue, and in the healing of a tuberculous lesion we hope, at least, to get the formation of fibrous tissue, and if I understand the action of potassium iodide it will tend to break down; that is so true that many of the older textbooks advise the giving of large doses of potassium iodide and the examining of sputum, because you will find it then if you did not before, owing to the fact that you have broken down some of the freshly formed fibrous tissue and there is a freeing of the germs.

One thing I would like to emphasize that was brought up by Dr. Rawlings is the slowness, the slow course which an old, senile case runs. I believe that occurs because we have as a rule few bodies in the nasal pharynx to interfere with the free entrance of air. The lung tissue has all of the upper air passages comparatively free. In children we find adenoids and enlarged tonsils and we find tissues there which should not be and that hinder the entrance of oxygen, the entrance of air into the lungs; so that we should emphasize in every case of tuberculosis the thorough examination of the upper respiratory tract, making sure that the patient is getting all the air which can possibly get through and that there is nothing hindering its passage.

DR. G. E. McKEAN, DETROIT: I wish to speak of the use in oozing cases when you have not a coagulant, or even if you have a coagulant, of the injection of a hypodermic syringe of blood taken from a near relative of the patient into the tissue of the patients themselves. It will do the work fully as quickly as coagulose or as any of these agents and just as safely and it is always at hand. In regard to the use of morphin in hemorrhage, I would hate to lay it aside even for nitroglycerine or any of the other drugs recommended on account of the control of the patient's mental attitude, if for nothing else. The only danger of morphin in controlling a cough is that of allowing the patient's lungs to be flooded with the blood that is flowing out.

DR. McDONALD, DETROIT: I think much can be said in commendation of the papers that have been read and especially of Dr. Jackson's and also Dr. Rawlings'. I think Dr. Jackson gives us an insight of what we should do at the very beginning of a childhood's disease. It gives us an inkling of what we ought to do towards the protection of every child that comes into a family. How often do we see the picture of babies going into a clinic or a hospital and dying in a few days with tubercular meningitis. How do they contract this? Probably from coming into direct contact with a tubercular grandfather, or aunt or uncle, or somebody who has nothing to do but sit around the home and take care of the baby. The child is on this relative's lap and is being caressed and kissed and in that way the condition is carried on down to the next patient. It shows how careful we ought to be in making a diagnosis in parents or in some of the members of the family that may have tuberculosis. We can get at it from the sunlight side with tuberculosis and our treatment of some of these cases that we get in the Children's Free Hospital has been from this standpoint.

DR. V. C. VAUGHAN, JR., DETROIT: The points I would like to speak of with regard to tuberculosis in children are principally in relation to tuberculin. It has been our experience in Detroit, from a large clinical observation, that children do not show a large number of physical signs, the bronchial breathing in the child's chest overshadowing any slight physical changes which may give rise to signs noticeable upon auscultation. We have during the past year, among 787 cases, had a percentage practically one-third early, one-third moderately advanced, and one-third advanced, which shows that we have at least obtained a relatively accurate survey of all cases of

infected individuals not limited simply to the moderately advanced and advanced cases. Our early cases are found in individuals under fourteen years of age, and they are cases which are brought in by nurses as a result of association with tuberculous individuals. We find that these children give positive tuberculin tests, run an afternoon temperature of from 99½, probably, to 100 degrees, and show very few physical signs. We think that these children are tubercular and certainly the only way to treat such children is on the assumption that they are tuberculous at that time. We keep these children under constant observation, having them return frequently. Some of them are even placed in sanatoria. Others are put into open air schools where they are kept under weekly supervision.

With regard to the temperature, I believe the temperature is more common in the early stages of tuberculous infection and I believe that the tuberculous temperature is not a high temperature. Under ordinary circumstances, as a matter of fact, I believe that the characteristic temperature curve of a tuberculous case is rather one of great variability than one of high temperature; a greater range between the low temperature and the high temperature, a greater fluctuation than is found in the normal. We will find a subnormal temperature in the morning, associated with a temperature of 99½ in the afternoon. Now, this temperature corresponds in a general way to the tuberculin reaction which occurs. It is a well known fact that the largest percentage of positive tuberculin tests are found in the early cases; an intermediate percentage of moderately advanced cases react to tuberculin. I believe that the temperature which we find in the early cases is associated with the process of reaction which is manifested by the positive tuberculin reaction. As the disease progresses and as it becomes more chronic, we have less and less temperature and, as Dr. Rawlings has so accurately brought out, in elderly patients we very seldom have any temperature at all. Now, I think that we sometimes confuse the temperature which we find in advanced and moderately advanced cases with that of the true tuberculous infection temperature. For example, I believe that the fever, associated with chills, which we find in individuals with cavity is due entirely or very largely to the secondary infecting organism and not to the primary tuberculous focus. We have found three cases of acute miliary tuberculosis in children, found in them tuberculous meningitis, which is but a manifestation of an acute miliary process in the majority of cases, in which we could find no source of infection until we examined the sputum of grandparents who were apparently well, except that they had a chronic bronchitis and had lost a little in weight, as elderly people should; there we found the sputum filled with tubercular bacilli. Now there was no question about the virulence of the bacilli in those cases and I think that is a very important question and one we must consider thoroughly.

DR. COLLINS H. JOHNSTON, GRAND RAPIDS: I would like to have some information upon Von Ruck's serum and whether it may be a help in immunizing against tuberculosis, as I think Dr. Eggleston suggested. You have had a lot of work with tuberculin in general.

DR. V. C. VAUGHAN, SR., ANN ARBOR: Von Ruck's serum has been tested by a special committee appointed by the Government and found to be absolutely worthless; that is all there is to it.

DR. C. H. JOHNSTON, GRAND RAPIDS: I have not much to say in closing, except to refer in a word to use of tuberculin. I got a lot of help from it and I agree with everything that has been said by Dr. Jackson and even the other speakers. I have had much from it. In the first place Schick, Von Pirquet's first assistant, told me that Von Pirquet got from 75 to 90 per cent. of reactions in everybody perhaps after the fifteenth or eighteenth year of age referred only to the large clinics in the cities and to work in large cities like Vienna where tuberculosis is more prominent than in other cities; and, as Schick says, those results did not refer to the country at all. I do not believe that in a city like Grand Rapids, or in a country district we would get any large percentage of reaction. If I get a little reaction it helps a great deal. If it is positive it does not show disease; it only shows infection, and then the clinical investigation will show if that is a case of disease. Every child has measles and a large percentage become infected, but it does not indicate disease any other way. I get help from tuberculin as testing out children in tuberculous families, when I am able to give every child the tuberculin test. Every now and then my record will show that after three or four or five tests I get no reaction whatever, and then I test it six months later and I get a good, positive reaction; then I look up the temperature and find loss of weight and rapid pulse, and I pick up quickly and early in its course a case of active tuberculosis in a

child. I think of one now, where I had been giving a boy twelve years old a test every six months for five or six years, always with negative reaction. In February, I got the positive reaction; then I found a little temperature and rapid pulse. A month later he spit a little blood, and I have had a beautiful case of acute tuberculosis. He is now in a stage of recovery, that being six months ago. In that way, followed up, I think you get a lot of help from it.

DR. JOHN B. JACKSON, KALAMAZOO: Just one word in regard to the value that I spoke of of the X-ray. I did not wish to give the impression that I thought the X-ray was not of extreme value in the diagnosis of children. I merely wished to emphasize the fact that negative X-ray findings were not sufficient to say that the child did not have tuberculosis. I am aware that the records that I give were from the records of the large clinics and that probably the problem of tuberculosis is not as great in the country districts and smaller cities as the records of the clinics would lead us to believe and yet I believe that perhaps reporting these records in this discussion may increase interest in the early diagnosis of tuberculosis in children. It is much more frequent than we have been led to suppose, I am sure.

RETROCECAL APPENDICITIS.*

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Although this type of appendicitis is rather infrequently mentioned in the voluminous literature upon the general subject of appendicitis, yet the deviation of its essential characteristics from the ordinary form entitles it to especial consideration.

In early days it was thought that the most frequent direction of the appendix was inward, or downward and inward, but later investigations proved that this was true only in about 60 per cent. of cases. The cecum varies considerably in position and with it, the appendix, so that the appendix has been found to lie in almost every conceivable location within the abdomen, which its length and the extent of its mesentery would permit it to attain. Cunningham (1) states that the retrocecal position has been considered the normal one by at least "one or more observers." This position has been found by various operators to occur in from 15 to 35 per cent. of all cases.

Carmicheal (2) reports 33 per cent. of retrocecal forms in 102 cases. Eisendrath (3) states that "over 30 per cent. of cases are retrocecal." Jackson (4) says that in his experience 20 per cent. are retrocecal. In my last 200 cases in which accurate records of the position of the appendix have been kept, I have observed thirty-five or 17.5 per cent. to be of this variety.

Anatomical researches confirm the above statistics, thus: Byron Robinson (5) found the appendix retrocecal in 35 per cent. of 300 bodies examined; Monks and Blake (6) in 18

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per cent. of 582 cases; Boody (7) in 16 per cent. of 509 cases.

We have considered the appendix retrocecal when it was turned in an upward direction behind the cecum or ascending colon; it may be partially or wholly retroperitoneal; it may possess a partial mesentery or no mesentery at all.

The chronic and subacute varieties are of little more interest than the ordinary chronic and subacute varieties with the exception that these present a greater element of potential danger and the removal of the offending organ requires, at times, a higher degree of technical skill. It is with the acute forms that we are mostly concerned and these only will be considered at this time.

The pathology depends largely upon two factors: first, the relation of the appendix to the parietal peritoneum; secondly, the character, intensity and duration of the infection. If surgical measures are instituted early, the pathological process may not have extended beyond the walls of the appendix, but if the case is seen late and the retroperitoneal portion of the appendix happens to be the part diseased, then one of the following conditions may obtain:

1. An appendix wholly or partially gangrenous.
2. Perforation or abscess. If the latter has taken place the abscess may be confined behind the caecum, pushing the cecum forward. In this form the cecum is frequently forced into the incision on opening the peritoneum.
3. The abscess may pass upward to the lumbar fossa. (In the prone position the lumbar fossa is on a lower level than the iliac fossa.)
4. It may extend upward to the liver, forming a subhepatic abscess.
5. It may go further and reach the subphrenic space forming a subphrenic abscess and later rupture into the pleura or even into the lung, if lung adhesions are present, and may be coughed out through the trachea. Jackson (4) reports a case of this kind with a rupture so profuse that the patient was suffocated by the exudate filling the lungs.
6. It may force itself downward into the pelvis.
7. It may drain downward posterior to the peritoneum, separating the peritoneum and point, in a similar manner, to a psoas abscess, just above or just below Poupart's ligament.
8. It may burrow through the transversalis fascia and the muscles of the abdominal wall and pass downward underneath the fascia lata into the thigh.
9. It may break into the colic veins and cause multiple abscesses of the liver.

We have endeavored by a search through medical literature and analysis of our own cases to find, if possible, a definite symptom-complex distinctive of the retrocecal form of appendicitis,

and while we have not found that which we sought, we have reached the following conclusions.

As compared with the ordinary form of appendicitis we observe:

1. That the pain, nausea and vomiting are more transitory;
2. That fever more commonly persists after the pain has disappeared;
3. That tenderness is the most constant physical sign and that it is localized usually at a point external to McBurney's point i. e. in the loin just above the iliac crest;
4. That muscle tension is frequently absent;
5. That persistence of fever with disappearance of the other symptoms has led to mistaken diagnoses of typhoid, paratyphoid, malaria, infection of obscure origin etc.;
6. That some cases are so obscure that if the attack happens to be a mild one the source of infection may not be discovered until operation, if severe and if we are so unfortunate as to lose our patient, the source of infection may not be revealed until autopsy.

A carefully taken history with especial attention to the early signs will usually enable one to make an accurate diagnosis. The symptom-complex observed in most of our cases has been as follows: pain, epigastric at first, gradually becoming localized in the loin above the iliac crest; nausea and vomiting, then fever; all disappearing after a few hours with the exception of the fever. In some cases fever has been the only symptom elicited. The chief physical sign has been tenderness localized external to McBurney's point. The muscular rigidity usually present in acute appendicitis has frequently been absent in our retrocecal cases. In thin individuals where abscess has formed, it has frequently been possible to palpate the abscess as a distinct tumor and to observe that this tumor had no connection with the anterior abdominal wall. Percussion may or may not reveal an area of changed resonance due to a subjacent or underlying mass purulent or otherwise. The dullness when present will often disappear and in a few hours reappear. This phenomenon has been interpreted as being dependent upon a varying gas content of the cecum.

A history of previous attacks of appendicitis may often be a deciding factor. Absolute and differential leucocyte counts carefully made and frequently repeated have been of value.

The possibility of referred pain must ever be borne in mind and the following conditions excluded:

Infection of right kidney.

Right ureteral calculus.
 Floating kidney with a twisted ureter.
 Right pyosalpinx.
 Right ectopic gestation.
 Ovarion cyst with a twisted pedicle.
 Acute cholecystitis.
 Acute cholelithiasis.
 Typhoid fever.
 Hip joint disease.
 Disease of the Psoas muscle.
 Abdominal tuberculosis, etc.

Prognosis of retrocecal appendicitis depends among other factors upon: 1, the virulence of the infection; 2, the extent of the infection; 3, the patient's resistance; 4, the skill with which the case is managed. As a rule it is more serious than any other form excepting that which is accompanied by a general peritonitis.

Dogmatic rules in surgery will always have exceptions. However, it is now quite generally conceded that the best treatment consists in removal of the appendix as soon as the diagnosis has been made. When the appendix has ruptured and peritonitis has supervened, whether or not the appendix shall be removed at once or left for a subsequent operation, is not always easily determined. My plan has been to individualize cases and to adopt that form of treatment best suited to each case. One point of difference in treatment from the ordinary type lies in the site chosen for drainage in abscess cases. This should always be placed at a point where the abscess will evacuate itself to the best advantage. A few may be drained anteriorly, many through a stab wound external to the original incision, but the majority of cases will best be drained posteriorly through the lumbar region. If drainage of an ordinary abscess is an important factor in treatment, drainage of a postcecal abscess is doubly important because the arrangement of the postcecal structures offers little resistance to the spread of infection.

Our thirty-five cases may be classified as follows:

1. Retrocecal with a partial mesentery, 12;
2. Retrocecal without a mesentery, 6;
3. Abscess, 17.

The appendix was removed at first operation in all cases except eight.

I have since removed the appendix in two of these eight cases.

The large percentage of abscesses in this series is an illustration of the difficulties encountered in diagnosis. Some of these abscesses were small and not suspected until revealed by operation.

Some of our cases possessed unusual interest.

In one the appendix was firmly attached to the lower pole of the right kidney. Infection had evidently passed from the appendix to the kidney, a portion of the lower pole of the kidney showing an infected mass, while the remainder of the kidney was apparently healthy.

Another died of multiple abscesses of the liver.

A third had been diagnosed as carcinoma of the cecum. This patient was given a bismuth enema and radiographed, when a postcecal appendiceal abscess was plainly evident.

A fourth developed intestinal obstruction five days after operation, ileum to cecum; reoperated and relieved. Was doing nicely when one week later developed a volvulus of the small intestine on the left side of the abdomen, third operation, relieved.

A fifth developed as a post-operative complication a subhepatic abscess which was subsequently drained. Three cases developed intestinal obstruction while still in the hospital and secondary operations were necessary.

It would seem that the dangers and difficulties attending removal of an acute retrocecal appendix are a good argument in favor of the course adopted by the large majority of abdominal surgeons at the present time viz., routine examination when possible of the appendix during all laparotomies, with removal of the same if its position is found retrocecal or retroperitoneal or otherwise misplaced or if revealing evidence of past or recent disease.

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1131-1137 David Whitney Bldg.

DISCUSSION

DR. J. J. REYCRAFT, PETOSKEY: I had not thought to discuss this paper, but you will be compelled to hear from me a little, I guess, on this subject. I feel a good deal like Mark Twain. When asked to go on the platform, he wrote declining, in part because he never expected to appear on a platform again except at an affair of his own making and this afternoon after the nice, warm reception I got yesterday I feel almost terror stricken at appearing before you.

I do not know of anything that could make me talk better than this very subject that we have to-day, appendicitis. It is as old as the hills. It is a subject that has been discussed from all angles and yet there is always something new. I have operated myself so many times in this condition and I feel so much at home in it and like to get hold of a case that I am familiar with. Certainly, the matter of appendicitis, the kind of appendicitis that we have had here today, is open

to discussion. We find, I think, not as many as the essayist states—I did not believe that we found so many appendices in this position—but we do have some; and when we have it in that position, we usually have it as the result of a former attack. When you come to operating on it, you will find that it is harder to operate. You do not have any meso-appendix, you find the appendix embedded right in the wall. The operation that the essayist showed for removing the appendix, by cutting in along where it is, is a very good one. As far as burying the stump, that is useless. I have not buried the stump five times in over 700 operations. Particularly in the operation shown here, I do not see why it should be buried. There is a point that I follow—it may be of interest to some of you—and that is to take the appendix where it comes off the cecum in these cases—and, by the way, I think it is one of the best operations we have, devoid of spreading infection, devoid of hemorrhage, devoid of cutting into a lot of new tissue where you have a large surface with adhesions forming later—pick up the appendix and tie it at the cecum, go on a little bit further and tie it again. You have two stumps. Use them the same as you would one. Leave the appendix in if the lumen of the appendix is destroyed. In many, many cases you will never hear from your appendix again. I think that is the proper way to serve it. It is not necessary always to cut your appendix out because that appendix is going to die and get out of the way.

Never would I think of leaving an appendix in an abdomen that I had started to operate on, particularly in an acute appendicitis. I always remove the appendix if it is not walled down. The matter of an intermediate operation, an interval operation, to me is nonsense. No man can take an abdomen full of pus and get good results from it by leaving in an appendix that is rotten. Take them all out. We do not have a big death rate when we do it. I do not know that I am borne out in my statement by many men who have large surgical practice, but I never left but thirteen appendices in the abdomen in my life when I opened for that purpose. There is not the danger of spreading infection by taking out a gangrenous appendix, and I want to tell you that my experience has shown me that it is the only way. You may not find it right, and I would not want you to write death certificates, but in the future, Doctor, try it. Do not say, "We will wait, we may not have appendicitis, we may have typhoid and the like, we will take the pus, or the blood rather, and find out whether we have a leucocytosis, whether we have anything." My experience is that I would rather operate twenty times and not find anything the matter with the appendix than to neglect one case and have it die. You will never lose a patient looking into the abdomen under aseptic conditions. The patient you lose is the one that you let stand.

I have not time, gentlemen, to go into this subject as I would, but I think the paper was admirable and I thank the Doctor for the many points brought out in the paper. It suits me as well as any paper on appendicitis that I have heard for a long time. I am very glad that I could discuss it with you.

DR. H. E. RANDALL, FLINT: It seems to me that the most important thing in this paper—Dr. Hewitt hinted at it, but I do not think that he made it strong enough—is the fact that all cases of retrocecal appendicitis are mild cases. They are the cases that go along the street, they are busy men who keep at their work, the patient does not show much rigidity of the right rectus. The doctor may be surprised in making the blood count to find that the man has a high leucocytosis and a high percentage of "polys." The last year or so I have been observing these case with this in mind, that in those cases where we do not have rigidity of the right rectus, so far as I have seen, we have had rigidity of the external oblique muscle. I think that is an important thing. When the appendix lies free in the abdominal cavity, the pain is more severe, they vomit more, they have a higher temperature. Many of these retrocecal cases do not have very much temperature, they do not have much rigidity, and in every one of the cases that I have found so far with rigidity of the external oblique the appendix has been retrocecal. I am convinced that very many of these cases are not retroperitoneal, they are retrocecal in the sense that they lie close to the peritoneum, the exudate agglutinates them to the posterior peritoneum, and many of these cases we classify or they used to classify as retroperitoneal.

Dr. Reyecraft, I think, made a little misstatement in saying that the appendix should come out in all abscess cases. I think it should come in the large majority of the cases at the time that the hand is in the abdomen; you feel your appendix and you can tell whether it is in the abscess wall or not. It is not a good thing to take that appendix out and spread pus into the abdominal cavity, but if you can get it out without

breaking up your wall, it is advisable to do it; the cases get on better and it does not mean a secondary operation.

DR. H. W. HEWITT, DETROIT: I was in hopes that the paper would be very freely discussed because there are a great many points that I could not bring out in such a short paper and especially elaborate upon. The point made by Dr. Randall, about these cases being mild, we have found to be true. A great many cases are ambulatory, but we have also found that some cases have been very severe; for instance, the case I showed on the screen, in which there was an abscess of the liver. I operated on that patient within twenty-four hours after the original attack and I believe that the patient had had that abscess of the liver before we operated. His temperature was high and after operation the temperature did not go down. Most of our cases have been not entirely strictly retroperitoneal, as Dr. Randall has said. They have been partially retroperitoneal and partially preperitoneal. I do not quite agree with Dr. Reyecraft on one point and that is always removing the appendix. I believe that it is a little bit safer in some cases to leave it and to go in after that appendix at some future time.

CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS.*

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Congenital hypertrophic stenosis of the pylorus in infancy has lately been brought prominently to the attention of the profession and cases are being constantly reported. The earliest known case was described by Bardsley in 1788, but it was just one hundred years later when Hershprung described cases and drew attention to the subject again. From this time on cases were occasionally reported, but it has only been within the past five years that physicians and surgeons have come to realize that this disease was not so extremely rare as has been supposed, but was simply not being recognized as a clinical entity.

Holt and Downs of New York have each within the past year made reports and published articles covering a total of seventy cases of this disease, together with their conclusions as regards diagnosis, pathology and treatment. Some of the latest works on surgery refer to this condition and some of them give pretty accurate descriptions of the symptoms together with a discussion of the diagnosis and the indications for treatment, both medical and surgical.

Lewis and Grulee, in the early part of the past year, report upon a case of pyloric stenosis in an infant in which they had an opportunity to make a post mortem examination of the stomach 256 days after an operation which was a gastro enterostomy. They found the pylorus still closed and with no apparent change in the condition of pyloric hypertrophy and stenosis.

This disease occurs most often in breast-fed babies and comes on in from three to six weeks

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after birth. It is characterized by a peculiar propulsion vomiting after each feeding which is persistent and with only short intervals of relief. This is followed by failure of weight, retraction of lower and bulging of upper abdomen, and parastaltic waves passing from left to right in the stomach region may often be seen. In some cases a tumor about the size and shape of an olive may be felt in the region of the pylorus. Syphoning out the stomach contents with a large catheter will show stasis and the diagnosis can easily be confirmed with the X-ray.

Many theories have been advanced as to the cause of the hypertrophy and the resulting stenosis, but nothing is definitely known. Pathologically it is known that there is an hypertrophy of the pyloric muscle with, in many cases, a considerable increase of connective tissue. There is no doubt that in many cases, especially those which recover under medical treatment, there is nearly a spasm of the more or less thickened pyloric muscle.

The etiological factors underlying this very interesting condition have not as yet been definitely worked out. Medicinally, this disease may be treated by irrigation of the stomach, careful dieting as to amount and intervals of feeding, character of food, etc. and if the case is one of pyloric spasm recovery may take place. If there is no improvement after a few days treatment or it becomes apparent that there is an organic lesion present, operation should be performed at once and it is the consensus of opinion that a posterior no loop gastro enterostomy is the preferable operation in these cases.

I had an opportunity to see a few cases of this disease in Boston in 1911, and in November of 1914 was called to see a child in the country which presented symptoms of this disease. The child, a female, was a breast-fed baby, plump, well-formed and healthy at birth, weighing nine pounds, and continuing well until three weeks of age when she suddenly began to vomit. This continued with varying intervals of relief for three weeks at which time I first saw the baby which presented a very striking picture—emaciated, weighing seven pounds, with a retracted lower abdomen and bulging of the upper abdomen. Parastaltic waves could be distinctly seen passing from left to right and reversed. No palpable tumor could be felt, but the vomiting had the peculiar expulsive quality characteristic of this disease. I made a probable diagnosis of

pyloric stenosis and had the patient removed to our hospital where aspiration of the stomach contents and X-ray negatives were taken confirming the diagnosis. After carefully and repeatedly washing out the stomach to remove the bismuth and retained food, an operation was performed under light ether anesthesia, assisted by the local use of $\frac{1}{4}$ per cent. novocain and adrenalin.

The operation consisted of a posterior gastro enterostomy by the suture method through a right rectus incision, and required but forty minutes time. The child made a good ether recovery but in spite of transfusion, warmth and food after six hours, etc., she died about eighteen hours afterwards. I fortunately was able to obtain the consent of the parents for a post mortem and the removal of the stomach, and the specimen, as you see it, shows the condition of the pylorus very nicely. There is a hard hypertrophic mass occluding the pylorus with the mucous membrane in folds. At the post mortem there was no sign of hemorrhage or leakage of the enterostomy and I believe that if the operation could have been performed earlier, the child's chances for recovery would have been much better.

My excuse for making this report is the comparative rarity of this disease or at least of its recognition, the very recent beginning of our knowledge of this very peculiar condition. As we can easily recognize the importance of early diagnosis in its relation to successful treatment, if this disease is always kept in mind, in such cases, the diagnosis is much less likely to be overlooked. Also, the fact that an opportunity to hold a post mortem in such cases does not often occur.

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PRELIMINARY REPORT ON INTRA-SPINAL INJECTIONS OF MERCURIALIZED SERUM FOR CEREBRAL SYPHILIS.*

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Never in the history of medicine has there been such a revolution in the conception of the pathology and the treatment of any disease as

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there has been in the past decade with regard to that of syphilis. This disease, probably affecting at least one-twentieth of the human race, has, in certain of its manifestations, resisted treatment and even investigation, for centuries, despite the fact that some of the best minds in the scientific world have been directed toward its study.

About ten years ago Schaudinn and Hoffman discovered the organism which is the cause of the disease, namely, *treponema pallidum*, which furnished a new basis and a fresh start for more thorough and positive investigations.

The next notable achievement was performed by Ehrlich in his laboratory investigations for the discovery of a cure for sleeping sickness. Chiefly as an accident connected with the investigation, he brought forth for the treatment of syphilis the remedy known as salvarsan (606) or more scientifically speaking, Dimethyldiamidoarsenobenzol. The treatment of primary, secondary and tertiary syphilis immediately underwent a revolution and at the present time has been placed upon a fairly good working basis.

There remained, however, one class of syphilitic diseases which did not respond to the new treatment. It has long been known that the so-called para-syphilitic diseases, notably tabes and general paresis, were syphilitic in origin. In fact Fournier early placed them in the list of those diseases of which syphilis was the causative factor. It remained for Noguchi, however, to demonstrate the *treponema pallidum* in the central nervous tissues in persons suffering from these diseases. Within the last two or three years, therefore, we have come to regard the para-syphilitic diseases not as para-syphilitic at all, but as strictly belonging to the category of true syphilitic diseases.

The question then arose as to the reason why these forms of syphilis do not respond, as do the other lesions, to the specific medication discovered by Ehrlich. At first it was thought that perhaps the changes of the nervous system, due to syphilis, had so altered the nerve cells that restoration of tissue, and with it function, was impossible. The second explanation for failure to obtain results from ordinary medication in cerebrospinal syphilis was that perhaps the drug did not reach the seat of the disease. Investigations took place upon both of these hypotheses and the second one has been practically proven to be correct. It has been shown by various investigators, among them Pettit and Girard, that the cerebrospinal fluid is

not a transudate, as had been supposed, but that it is an external secretion of the choroid plexus. In other words the choroid plexus exercises a selective action upon drugs and other substances which pass through the general circulation and from there into the spinal canal.

The experiments of Frasier of Philadelphia, of Goldmann and of Dixon and Halliburton, and others, have tended to confirm this opinion. As a further proof it might be mentioned that arsenic and mercury, when injected into the circulation have been found in the cerebrospinal fluid either not at all or in extremely small amount; the amount in all cases being too small to have any definite effect or therapeutic value in the treatment of the disease.

Camp studied the spinal fluid of seventeen patients who had received intravenous injections of salvarsan and in none of these cases did he find any evidence of the drug in the spinal fluid. These examinations were made at variable intervals after treatment and in only one case, in which large and repeated doses were administered, was there the least trace of arsenic found. Some, however, have reported very minute quantities.

The theory that the central nervous system is not attacked until late in the disease, say the tertiary stage, has also proven untenable. Wile and Stokes have shown that there are positive evidences of involvement of the central nervous system in the secondary stages of the disease, as proven by their study of the spinal fluid in a number of cases at University Hospital recently. These cases were all of secondary syphilis, which were undergoing treatment at University Hospital. Two-thirds of these cases showed evidences at this stage, in the spinal fluid, of the involvement of the central nervous system. He states that from this result we must conclude that this does not represent the whole number who will at some time show or who have already shown, a reaction on the part of the central nervous system and also that the absence of findings indicative of meningeal reaction in a single examination cannot be taken as conclusive evidence of freedom from central nervous involvement. He concludes:

"Comparing this high ratio of early involvement with the relative low ratio of late involvement, as compared with the total number of syphilitics, we must conclude that the early involvement is for the most part a transitory manifestation. The central nervous system is particularly likely to show involvement in case the eruption is papular or follicular in type. Marked subjective symptoms such

as headache, insomnia, and nervous irritability, were for the most part accompanied by positive findings in the fluid in our cells. In a general way cases in which there had been late or no treatment showed a higher percentage of involvement than those in which vigorous treatment had been inaugurated. The common finding indicative of meningeal reaction was the increased globulin and albumin content; positive Wassermann ranking next and lymphocytosis last."

As an aid to diagnosis and as a possible guide to prognosis, the value of the spinal puncture in cases of secondary syphilis can scarcely be over-estimated. This fact of the disappearance in a large number of cases, especially those who had been subjected to vigorous treatment, of the evidence of central nervous involvement in later years, after the disappearance of secondary and tertiary symptoms, seems to indicate that the ordinary and general treatment used in the early stages of the disease will prevent the later manifestation in a certain proportion of cases. Nevertheless when the central nervous system has finally become involved in either the form of tabes or general paresis, the ordinary medication accomplishes next to nothing.

As a result of this failure in treatment various other methods were devised for reaching the seat of the disease and Swift and Ellis were the next investigators to make a decided advance along this line. They introduced a method of administering salvarsanized serum directly into the spinal canal. The method is described briefly by Kaplan as follows:

"The patient receives an intravenous injection of 0.5 gm. salvarsan, in the majority of cases, given in the usual manner. One hour after this administration enough blood is withdrawn from the patient's vein to give at least 15 cubic centimeters of serum. The blood, obtained under aseptic precautions, is permitted to coagulate, and is then placed in the ice-chest overnight. Next morning the separated serum is very carefully decanted off into a centrifuge tube, and permitted to centrifuge for about half an hour. The clear supernatant serum is pipetted off from the few red cells at the bottom, and poured into a graduated cylinder up to the 12 cubic centimeter mark, and then brought up to 30 cubic centimeters by the addition of sterile 0.9 per cent. NaCl solution. This is placed in a 56° C. thermostat for thirty minutes, to avoid danger of contamination and the mixture of serum and salt is injected at body temperature.

"The lumbar puncture needle is introduced in the usual manner and about 30 cubic centimeters of cerebrospinal fluid is withdrawn, or a quantity that will reduce the intraspinal pressure to about 30 or 40 millimeters. This is gaged with a three-millimeter glass tube graduated in centimeters and millimeters. When the desired pressure is reached, the connection with the gage is discontinued. The serum-salt mixture having been poured into a large size Luer syringe carrying at the delivery point a

sterile piece of connecting rubber tubing about twelve inches long, this is now attached to the lumbar puncture needle, taking care not to introduce any air; the mixture is then permitted to flow gently into the subdural space. The use of the gage is not essential, the only requisite being that the quantity removed equals the quantity introduced. If the patient complains of discomfort further withdrawal of fluid had best be stopped and the mixture introduced before 30 cubic centimeters have been withdrawn."

This method, however, received a serious shock from the death, at Los Angeles, of seven patients out of eight in the county hospital, to whom "Salvarsan" had been administered. Dr. Whitman, one of the physicians in these cases, gave as the most plausible explanation of the cause of death, that oxidation had taken place in the neosalvarsan. As the drug used was neosalvarsan instead of salvarsan, and the solution, even though in hermetically sealed tubes, was kept for twenty-four hours, it is very probable that oxidation took place during this time. Other investigators then became somewhat wary of the intraspinal injections of salvarsanized serum, and yet the hopelessness of these cases when treated after the ordinary method, or not treated at all, seemed to justify further attempts at medication along similar lines. Questions arose as to the rationality of the treatment. The manner in which the serum was supposed to be effective came to question. Some took no stock whatever in the efficacy of the method, maintaining that the improvement was due to the intravenous injection alone and that the changes in the spinal fluid, which were chiefly in the way of decreased blood count and globulin content, could easily be accounted for by the withdrawal of spinal fluid and dilution of the remaining portion by the serum injected.

As Byrnes of Baltimore says:

"It does not require extensive mathematical knowledge to understand that 12 cubic centimeters of serum, the original amount which Swift and Ellis removed from a patient who has received only 0.6 grams of salvarsan, must contain an infinitesimal amount of either the altered or original arsenical preparation."

This, it seems, is the most forcible argument against the adoption of this form of intraspinal therapy, the subject being admirably treated in a late article by Sach, Strauss, and Kaliski.

From the chemical analyses of Benedict on ten specimens of blood removed from fifteen to forty-five minutes after intravenous injection of salvarsan, this author has made some interesting calculations. Only some .00004 to .0001 gram of metallic arsenic could be de-

tested in 20 cubic centimeters of cold blood and from these figures it was estimated that blood removed three-quarters of an hour after administration of salvarsan contained practically no free arsenic in the serum.

In 1913 Ravaut began the injection intraspinally of unchanged neosalvarsan and a few months later, in November, 1913, Marie and Levaditi did the same sort of work, but with rather disappointing results. In 1914 Ravaut changed his technic by using hypertonic solutions of freshly distilled water for the purpose of doing away with the subsequent unpleasant effects of the injection of the drug. Wile, in the same year, introduced this technic into America and finally gave reports upon fifteen patients thus treated. Two of them are dead, seven markedly improved, both subjectively and in the objective findings in the cerebrospinal fluid; three patients having general paresis were given only a single injection with a relapse of symptoms and no subsequent treatment was given. One patient was markedly improved with regard to the oculomotor palsy, but showed progression of the spinal feature of the disease in a progressive paraplegia. He warns us, however, that for the present at least this form of treatment should be restricted to those cases in which other forms of treatment have proved unavailing and that the danger of the treatment in its present unprotected state should be pointed out to the patient and his family and the responsibility for its administration should be shared by them. Hall in a preliminary paper very recently announces that he has injected intraspinally with neosalvarsan, 125 patients without any untoward results. He does not say with what therapeutic effect however.

It occurred to Byrnes, after about a year's experience with the Swift-Ellis method in its original form, that better results might be secured if a larger dose of some specific drug could be introduced into the subdural space. Wile's injections had consisted of about one to four drops of a 6 per cent. solution of neosalvarsan in distilled water. This makes the solution hypertonic and of such a concentration that every minim contains three milligrams of the drug. Three to twelve milligrams of neosalvarsan, then, constitutes the dose which Wile hit upon as the dose of election in his cases. The spinal canal had been, on various occasions, irrigated with a 1-30000 bichloride solution as a post-operative measure and later Ravaut reported injections of mercurial salts for the treatment of cerebrospinal syphilis. He reported but two cases, the first receiving two

drops of a 1-1000 bichloride solution, with very little or no unpleasant after effects. No subsequent treatment was given and the patient was lost sight of. The second case was treated with mercuric cyanid, two drops of a 1 per cent. solution. Because of its lower coagulating properties and its great activity it was chosen as being perhaps least likely to produce local irritation. The subsequent reaction, however, did not bear this out as there were marked unpleasant symptoms following the injection, among them pains and cramps in the legs, severe muscular contractions beginning in the feet, ascending to the trunk and arms, and involving the entire body, and marked trismus. These symptoms had subsided by the following day and four months later the spinal fluid showed a reduction in the cell content and a negative Wassermann.

Many of the patients which came under Byrnes' care had already received thorough courses of the mercurialized treatment which suggested to him the idea that they might be receiving, along with the salvarsanized serum, a weak solution of the mercurialized serum. He then began a series of experiments upon fifteen patients, dividing them into three groups of five each. The first group received mercurial inunctions; the second daily intramuscular injections of biniodid in oil, and the last group bichloride and potassium iodid by mouth. All were treated to the point of saturation, then blood was withdrawn, the serum separated and analyses were made with a view to learning, if possible, the mercurial content of the serum. Specimens of the spinal fluid were also taken. The result showed that the serum in the patients of the first group, those treated by inunction, showed a slightly higher mercurial content than from those of the other groups. The spinal fluid in only two instances showed what might be considered a questionable trace of mercury, too small to be estimated.

It seemed to him, therefore, absurd to believe that a patient's serum could by this means be impregnated to an extent sufficient to give it any therapeutic value in the treatment of the cerebrospinal form of the disease by intraspinal injections. In his cases he uses the albuminate of mercury, chiefly to avoid the irritating after effects of the injections, and administers it in blood serum. He produces the albuminate by adding the mercurial salt (bichloride) directly to human serum. This precipitates the albuminate of mercury which in an excess of albumin is again readily soluble so that he obtains a perfectly clear solution. Six cubic cen-

timeters will hold in solution at least one-third of a grain of the bichloride converted into the albuminate. All of the requirements seem to be satisfied by this form of the drug. A much larger mercurial content than that desired for therapeutic purposes could be produced. He began with minute doses, arranging them according to body weight, the average tolerance for mercury when administered intramuscularly, and the proportion between the volume of circulating blood and spinal fluid. He found that one-twenty-fifth of a grain of bichloride could be safely administered in this manner. His technic I quote in full. It is the same as that employed by Swift and Ellis with the exception that no drug is administered before bleeding the patient.

"1. Sufficient blood is withdrawn to make from 12 to 30 cubic centimeters of serum. The larger amount is obtained if concentrated serum is to be used. After the blood has coagulated the serum is pipetted and if necessary

2. Centrifuged for twenty minutes.

3. If diluted serum is to be used, to 12 cubic centimeters of the centrifuged specimen is added one cubic centimeter of a solution of mercuric chloride in freshly distilled water, so made that each cubic centimeter contains .0013 grams (1/50 grains), of mercuric chloride.

4. To the serum thus prepared is added sufficient quantity of normal salt solution to make a total volume of 30 cubic centimeters. If the concentrated serum is used this step is omitted.

5. It is heated at 56 C. (132 8/10 F.) for a half hour and

6. Administered by gravity at body temperature.

Since the desired amount of mercury is readily soluble in the diluted serum I can see no special reason for employing the concentrated preparation.

In administering the serum I have adopted the method followed by Swift and Ellis. With the patient lying in bed, lumbar puncture is done, pressure readings are made and spinal fluid withdrawn until the pressure falls to 30 millimeters. The serum is then administered and the foot of the bed elevated about eight inches for a half hour."

He reports thirty-two cases, thirteen of which were tabes; two of tabo-paresis; three of cerebro-spinal meningomyelitis and fourteen of general paresis. His cases of tabes and meningomyelitis showed the most marked improvement, although some of the cases of general paresis showed almost as much.

Ordinarily the after effects of the administration are mild. Most patients complain of pain in the legs for six to twelve hours, there may be nausea or even vomiting and a moderate

rise of temperature. These, however, are usually transient and soon subside, usually disappearing by the following day. He has never noticed any evidence of renal disturbance, nor of sphincter disturbances, which have been noticed following the use of salvarsanized serum. The improvements in general, in his cases, are similar and fully equal to those following the injections after the Swift-Ellis method. In cases of tabes marked relief of the pains is noticed, improvement in the gait takes place, and alleviation of gastric symptoms occurs, while in some others no improvement is seen to follow. One case of tabes and one of tabo-paresis showed decidedly marked improvement.

The spinal fluid has always shown a marked decrease in cell count, even more largely in some cases than after the use of salvarsanized serum; the globulin content was diminished but the Wassermann reaction appears to be less readily affected. A negative reaction was obtained in only twelve of the thirty-two cases. He accounts for the low percentage by the fact that the treatments were determined by the cell count and clinical symptoms. These showed improvement, usually, after comparatively few treatments, and so further treatment was not insisted upon. A prolonged course of injections might, he believed, increase the percentage of negative Wassermans.

It is this technic with very slight variation, which we have used in our own experiments. Our modification has consisted only in minor details. We have not used the manometer to record pressure of cerebrospinal fluid for the reason that Swift and Ellis did not consider it necessary in their procedure, and we have usually depended upon the rapidity of flow of the fluid through the needle point to guide us in our injections. We have, on all occasions, withdrawn at least as large a quantity of spinal fluid as the serum which has been reinjected in its place, except in one or two instances when the patient began to complain of unpleasant subjective symptoms from the withdrawal of the serum. Whenever this has occurred we have immediately stopped and injected the serum at that point, sometimes using a more concentrated mercury content in the serum in order that the dose may be equal to at least one-fiftieth grain of the bichloride.

CASE REPORTS.

The following six cases which I shall report came into the service of Dr. Dodge and myself at Mercy Hospital:

CASE 1. C. H. E. Male, age 33 years. Entered hospital December 19, 1914 with marked symptoms of general paresis of an extremely severe type. The patient showed entire loss of mental co-ordination, marked hallucinations and it was necessary to use restraint and to watch him constantly. This patient received one intramuscular injection of neosalvarsan immediately after entrance to hospital, but this produced no seeming effect in his mental condition or in his other symptoms. In fact he became more violent after the injection than before. The blood Wassermann reaction was positive. He was given his first intraspinal injection on December 26. There was no increase in the pressure of the spinal fluid noticed. On the 29th of December he left the hospital and went to his home. Shortly after reaching home his condition, which up to that time had remained about the same, or if there were any change it had been for the worse, began to improve and this improvement was gradual and steady, continuing for a period of about six weeks, by which time the patient could walk around the farm and no restraint was necessary. He began to show mental co-ordination and on the 2nd day of February, of his own accord, returned to the hospital for a second treatment, which was given him. At this time a globulin test was done on the spinal fluid, which showed positive. There was no increase in pressure on this occasion. Following the second injection his improvement continued unabated and he seemed to be perfectly clear and normal mentally. On April 27 he again re-entered the hospital for a third injection. At this time his spinal fluid showed a marked increase in pressure. Forty cubic centimeters were withdrawn instead of 30 as upon each of the other occasions. There was also an increase in the knee jerks noted at this time. After none of the injections were there any severe after effects noted whatsoever. Immediately following the second and third injections the patient left the hospital and returned to his home by train. He is still under observation, is now taking full charge of his farm and apparently well.

CASE 2. E. K. G. Female, age 69. First came under observation for stomach trouble. The stomach examination, after test meal, showed lack of acid, some pus and blood present, otherwise negative. A clear specific history was elicited, including primary and secondary stages. The patient was immediately put upon large doses of K. I. and her stomach symptoms readily cleared up. Treatment by neosalvarsan was given on the 10th day of January. At this time the patient complained also of a girdle sensation, of uncertainty on walking and it was noticed that she showed a slight tabetic gait. She had absence of knee jerk and a positive Argyll-Robertson pupil. She was then given an intraspinal injection of mercuralized serum on the 19th of January, 30 cubic centimeters in amount. The after effects were quite pronounced, the patient complaining of headache, of tremors beginning in the feet, extending up the limbs into the body and arms and finally involving the entire body. She was given an opiate and by the following day all symptoms had subsided. She left the hospital on the day following the injection and shortly after that began to show marked improvement in all symptoms, together with a decided increase in appetite. On

February 11 she was given a second intraspinal injection, 15 cubic centimeters in amount, but of the stronger serum so that the dose was the same. The after effects were still more marked than after the first injection and improvement was slightly slower, but nevertheless gradually for the better. At this time the uncertainty of gait has disappeared almost entirely, a knee jerk can be elicited and also the pupillary reflex to light has returned, although somewhat less than normal. At present she complains of practically no symptoms except an occasional feeling of pressure about the waist. She has an excellent appetite and has increased over twenty pounds in weight. This case is also at present under observation. She has announced her intention of taking a third treatment.

CASE 3. M. C. Male, age over 60. This was a case seen by Dr. Dodge in consultation and was diagnosed as general paresis, showing entire loss of mental co-ordination and of almost as severe a type as that of Case 1 above. In this case a distinct specific history was obtainable. Blood Wassermann was positive. Previous to the present treatment he had had three doses of neosalvarsan administered by intramuscular route. On February 11 he was given an intraspinal injection of mercuralized serum. No increase in pressure of spinal fluid was noted and the after effects following the injection were very slight and transient. Improvement began almost immediately in his mental condition and on March 1 he was given a second injection intraspinally. No increase in pressure was noted at this time, but the after effects of the injection, however, were very marked and lasted several hours, but had practically subsided by the next day. As far as the nervous condition is concerned this patient has shown very marked improvement. At the present time, April 27, he is normal, but has lately sought medical attention for a complicating organic heart trouble. Later, patient died from the heart trouble, his mental condition being clear up to the last.

CASE 4. McM. Age 30. Entered the hospital March 29, 1915 with absent knee jerk, ataxia, Argyll-Robertson pupil and inability to walk in the dark. Diagnosis of tabes was made. History of lues denied. Luetin test negative, Wassermann negative, both in spinal fluid and blood, but globulin positive. Was given first injection March 29 without any previous history of having had treatment with 606 or neosalvarsan. There was no increased pressure in the final fluid. The after effects were not marked following the injection. Patient experienced a decrease in the lancinating pains and girdle sensation shortly after the injection and a slight improvement in his ability to walk and handle himself. April 16 was given second injection. Continued improvement followed this injection as in the previous one. This patient has left the hospital but is still under observation.

CASE 5. H. N. C., age 38. Entered hospital April 19 with symptoms of lateral sclerosis. Specific history was obtained, initial lesion dating back some years previous. The patient was unable to walk without a cane and then only with great difficulty. Exaggerated knee jerks and over-flow of the bladder. Patient was given first injection intraspinally

the day following his entrance. The spinal fluid was clear. Globulin test positive. The injection was followed by very marked reaction, a severe chill followed by a rise of temperature to 104 and pains in the limbs and finally throughout the entire body. These symptoms had subsided by the following day and then improvement began which was steady and gradual up to May 1, when he was given a second intraspinal injection. On this occasion the knee jerks were still exaggerated. Pressure of the intraspinal fluid was quite markedly increased and the cell count showed 60 cells per cubic millimeter. The reaction after this injection was not so marked, in fact was extremely mild. There was no chill, very few pains were complained of, temperature did not rise above 100. On the 4th day of May patient left the hospital with decided improvement in his gait, was able to walk quite readily without the aid of a cane and while on entrance he was unable, when sitting down, to lift his foot to the level of a chair in front of him, just before leaving the hospital he was able to lift either foot, unaided, to the height of the back of an ordinary chair. Knee jerk was still exaggerated and patient will be under observation for some time yet. He says he feels better than any time during the past six years.

CASE 6. B. E. S., female, aged 45. Entered hospital Oct. 4, 1915 with moderately advanced tabes, Argyll-Robertson pupil, absent knee jerk and marked ataxia. Globulin test positive with cell count of 27 per cubic millimeter. Patient had recently been cured of the morphine habit by gradual withdrawal of the drug; formerly she had taken as high as a drachm per day. Chief complaint was pains in the back in region of kidneys running down into legs, with marked girdle sensation. She still suffered some from looseness of the bowels due to the withdrawal of the morphia. She was given the usual dose of a mercurialized serum, 30 cubic centimeters containing 1/50 grain of bichloride. Intraspinal pressure was found much increased on making puncture and 30 cubic centimeters of fluid was withdrawn with little difficulty. Reaction was only moderately severe and was over in about eighteen hours. Pains had disappeared and patient enjoyed the first rest she had had for weeks. She insisted on going home in a buggy, a distance of thirteen miles. This seemingly started her pain again for she returned to the hospital thirty-six hours later, where she was put to bed and treated with sterile hypodermics. Three days later she again went home improved. She will probably have further injections and will be reported upon later.

To Dr. Dodge for allowing me access to his patients, and to Dr. Byrnes, who kindly furnished part of the serum used in this work, I feel greatly indebted.

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A Therapeutic Absurdity.—Lactopeptine, whether in the form of an elixir, powder or tablets, is a therapeutic absurdity. Even if fresh specimens of the powder, possessing slight tryptic activity, have any advantage over old ones, there is no way of telling which the patient is likely to get, for the trade packages of Lactopeptine are undated. In liquid preparation like Elixir Lactopeptine, pepsin and pancreatin destroy each other (*Jour. A.M.A.*, Oct. 23, 1915, p. 1466).

Somnoform.—This was originally composed of ethyl chloride 60 per cent., methyl chloride 35 per cent. and ethyl bromide 5 per cent. Now it is said to contain but 1 per cent. ethyl bromide. Like ethyl chloride, somnoform has been used as a substitute for nitrous oxide before ether anesthesia and for short operations, but has been mostly used by dentists for extractions. It is doubtful if the mixture has any advantage for ethyl chloride. The mortality is less than that of chloroform, but twice that of ether and four times that of nitrous oxide (*Jour. A.M.A.*, Oct. 16, 1915, p. 1391).

The Journal
OF THE
Michigan State Medical Society
ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Arthur M. Hume, ChairmanOwosso.
A. P. BiddleDetroit.
W. J. KayLapeer.
W. J. DuBoisGrand Rapids.

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Grand Rapids, Mich.

All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscriptions are to be addressed to Frederick C. Warnshuis, M. D., 91 Monroe Ave., Grand Rapids, Mich.
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December

Editorials

GREETINGS.

The Publication Committee and the Editor of the *Journal* extend to the members, readers and advertisers their most cordial wishes and greetings for a Merry Christmas and a Happy New Year. May the season of holiday festivities bequeath to all of you a period of unalloyed pleasure and happiness.

In casting about for an appropriate thought to submit for your meditation, our attention was arrested by the following paragraph from one of Osler's addresses:

"Banish the future: live only for the hour and its allotted work. Think not of the amount to be accomplished, the difficulties to be overcome, or the end to be obtained, but set earnestly at the little task at your elbow; letting that be sufficient for the day: for surely our plain duty is 'not to see what lies dimly at a distance, but to do what lies clearly at hand.'"

INDUSTRIAL SURGERY.

The compensation laws now in force in several states may be accepted as the employers' recognition of the responsibility they assume for the economic and physical welfare of their employees. These compensation laws, providing as they do for the care and monetary remuneration of injured workmen or their legal

heirs, have created a new field of surgical procedure that is of interest to every member of the profession. They have created a new specialty that has to do with the prevention as well as the treatment of industrial diseases and injuries. Employers have assigned to surgeons the problem of devising methods whereby the employee may be safe-guarded. They also expect that when injuries are sustained—the law of averages and man's fallibility create a definite percentage—that then the injured employee shall be the recipient of such treatment as will best insure a prompt and speedy recovery with end results that produce the least deformity and the greatest degree of functional usefulness of the injured part or member.

Large business industries have their own chief surgeon to whom is intrusted the work of preventing accidents, devising a system of first aid and the care of those who are injured. Firms of lesser financial rating and unable to pay for the services of a chief surgeon are combining and pooling their interests to employ a surgeon to attend the employees of the members of the pool. Insurance companies are in the habit of retaining the services of a single surgeon to serve their policy holders.

Thus has there been caused to develop a new branch of surgery which some have been pleased to designate as Industrial Surgery. An efficient system of practice has evolved and to it there is rapidly being added new pronouncements of fundamental principles. The literature upon the subject is becoming more voluminous and available. Conferences are being held and the problems presented are being overcome as the collective experiences of surgeons recount the results of their methods.

It was but a few years ago when accident surgery, barring fractures and dislocations, was given but little thought and discussion. The accidents and injuries that presented in the industrial world were likewise given but little thought or discussion. They were accepted as but natural consequences of given conditions. Their end results were looked upon as unpreventable conditions and as a matter of course. Occurring, the easiest available doctor was summoned. In the end the ultimate result was largely dependent upon the doctor who assumed charge of the case.

Efficiency experts, employed to devise methods for doing business at a reduced production cost, soon observed that when an injured employee was attended by a certain doctor the final result of the injury was less incapacitating, the

recovery occurred more promptly and claims for damages were less. On the other hand when there was a promiscuous selection of doctors greater untoward results were encountered. This experience is what created the office of company surgeons.

The members of the profession whose foresight was keen, seized the opportunities thus presented. They rendered such aid and attention as to cause their being recognized and today many of them hold envied positions and receive handsome yearly incomes.

The surgery performed and the surgical treatment administered by these surgeons was formerly covered in a few chapters in the surgical text-books under the subdivision of minor surgery. That classification has today become inadequate and obsolete. The subject has been developed so that it has become classified anew as a separate specialty and the recognized principles of treatment if outlined would cause to be evolved a text book equal in size and value to those now in existence in certain other special branches of surgery.

To become proficient in industrial surgery requires a thorough knowledge of anatomy and the principles of general surgery. To this there must be added acquired skill and judgment that is daily enhanced by actual experience. It is as vital to prevent infection in the treatment of a simple, minor wound as it is to prevent infection following a major operation. The treatment of burns, fractures, saving of members, repair of severed tendons are equally as important and call forth the use of as much skill as does an oophorectomy, appendectomy and cholecystotomy. To know when to administer antitetanic serum and when not to incur such expense is equal to the knowledge required for the administration of serum in major serological indications.

One might continue to enumerate and compare analagous conditions. It is not our purpose to advance a reason or plead for a recognition of industrial surgery. We desire to merely outline the requirements and training requisite for one desirous of successfully engaging in this newer field of surgery. The work is one of growing importance and is rapidly becoming more exacting. Many desirable openings remain unfilled and but await him who perfects himself to perform the duties of an industrial surgeon.

To physicians in smaller communities and along railroad connecting points there is afforded opportunity of securing remunerative

appointments even though they may not attain chief surgeonship berths. Chief railway surgeons are breaking away from the rule of appointing as surgeon the oldest established physician in the community where it is deemed desirable to have a local surgeon. They are selecting men who, regardless of age, administer treatment and surgical care in accord with the principles of industrial surgery.

Editorial Comments

Acting upon instructions received from the Publication Committee no reprints will be furnished to authors who do not send their remittances to cover the reprint cost with their order. This ruling is made necessary by reason of the fact that in the past we have had to charge off reprint bills receivable on account of inability to collect. This new rule will be rigidly observed in the future. If you order reprints and fail to enclose a remittance to cover you will know the reason for failing to receive your reprints.

The Sixth Clinical Congress of Surgery was on the whole very successfully conducted in Boston during the week of October 25th. Abundance of clinical material was available, instructively classified and demonstrated. There was one manifest criticism and that was that with one or two exceptions the operator's demonstrations and technic was hidden from the observer's view by reason of the large number of assistants. The surgeons conducting operations during the sessions of the Congress should have it firmly impressed upon them the desirability of but one or two assistants—in certain operating rooms we counted five and six assistants. With such a large operative team it is impossible for the spectator to witness very much of the operative work. The elimination of this objection should receive the attention of those in charge of the next clinical congress.

The evening sessions might also be attended with renewed interest were others than Murphy, Crile, Oschner, et al, selected to occupy the important places upon the program. Certainly there are others devoid of "Lime-light cravings" who are able to present valuable papers and discussions for the mental entertainment of the assembled audience.

County secretaries are kindly requested to

promptly supply us with the names of newly elected officers. The receipts for dues will be mailed as promptly as it is possible to enter them on our records and fill in the membership certificates.

In the October issue we solicited expressions of opinions as to what time next fall or summer it would be most desirable to hold our annual meeting in Houghton. Thus far we have received but one reply. The Council, empowered to set the date, holds its meeting early in January. This body is desirous of securing the wishes of the members and to that end we are again soliciting an expression from our entire membership.

According to Cabot, pallor as a rule is not due to anemia. Pale people are common: anemia is rare. Discussing the subject he continues: The majority of cases of non-anemic pallor are due to living indoors, to continuous exposure to high temperatures, as in industry or in the tropics or to congenital causes.

Tuberculosis patients are usually pale but seldom anemic. Even extreme and ghastly pallor in consumption may be accompanied by a normal blood. Pallor of the lips is more significant than pallor of the face, much more apt to mean anemia, yet even this site is by no means proof of anemia. Anyone who is in the habit of basing his judgment upon the looks of the skin and mucous membrane has violent surprises awaiting him.

The spitting of pure blood in any considerable quantity is indicative of pulmonary tuberculosis in the great majority of cases irrespective of the presence or absence of other symptoms.

In a review of 3416 cases of hemoptysis Cabot has tabulated the following causes: Tuberculosis 1723; mitral disease 1177; unspecified 183; pulmonary thrombosis or embolism 141; pulmonary abscess or gangrene 77; bronchiectasis 58; pneumonia 52; aneurysm 22; trauma 17; neoplasm 6. In determining the diagnosis of hemoptysis it is essential to differentiate between blood-streaked sputum which may occur from other causes than tuberculosis.

The opinion is often expressed after the occurrence of hemoptysis in a given patient that it is of non-tuberculosis origin because it is impossible to demonstrate the physical signs of tuberculosis as being present in the lungs. It is

frequently too early to detect these lung findings and if the case is neglected tuberculosis will show itself in a few months in unmistakable form. This should be obviated by immediately placing the patient who has had a hemoptysis under prompt treatment for tuberculosis.

Correspondence

October 20, 1915.

Dr. F. C. Warnshuis,
Grand Rapids, Mich.

My Dear Doctor Warnshuis:

I desire to call your attention to the following paragraph from the report of the Committee on Venereal Prophylaxis, which was made at the fiftieth annual meeting of the Michigan State Medical Society and printed in the *Journal of the Michigan State Medical Society*, Vol. XIV, No. 10, October, 1915, page 535:

"Today there is but one public hospital to which the syphilitic as such can gain admittance and be treated during the dangerous time of his infection. All our other institutions close their doors to the syphilitic. A syphilitic who happened to contract typhoid fever or pneumonia would be readily admitted to any hospital, so long as his syphilis remained in ignorance. Many such syphilitics gain entrance into our hospital by reason of failure of diagnosis, and when perchance the diagnosis has been reached, the poor patient is shown the door with the greatest possible expedition.

We beg to submit to you that the Judge of the Probate Court of the city of Detroit, is forced to send his syphilitic charges to the University at Ann Arbor, because no Hospital in the city of Detroit will accept them, and these conditions exist in other cities as well. We can do no more as your committee than to invite your attention to this deplorable and narrow minded policy; a condition which we as ministers of the public health must take active measures to remedy immediately."

These statements were considered by the Executive Board of the Detroit College of Medicine and Surgery, at their meeting October 8, 1915.

The Executive Board passed a resolution that a communication should be sent to you, correcting these statements and asking you to make a public announcement in your *Journal* to the effect that Harper Hospital is taking syphilitic cases and has been doing so for a long time and also that Herman Kiefer Hospital has made the necessary arrangements and will take these cases from the first of November on.

Very truly yours,

JOSEPH H. HATHAWAY, Secretary.

Chicago, Nov. 12, 1915.

Dr. Frederick C. Warnshuis, Editor,
Michigan State Journal, Grand Rapids, Mich.

Dear Sir:

I shall soon notify your representative here, the Co-operative Advertising Bureau, to send you advertising from the Chicago Laboratory.

Let me say I have selected your *Journal*, among others, because of its scientific articles, good editorials on live subjects, interesting book reviews, correspondence, make up, etc.

There are some state journals I will not use under any circumstances, for the simple reason that they offer little to their readers, being mere collections of papers and perfunctory items published pretty much in the order received, without regard to value.

Some one has said that business goes where it is invited and remains only while well treated. May I expect the Editor's co-operation?

If we can make our advertising matter so interesting that it deserves comment, let us have it! Show the advertiser that his copy is not a billboard at which your readers may glance, but an essential part of your *Journal*, subject to praise or criticism, as the case may be.

With best wishes, I am

Very truly yours,

E. J. DOERING,
Medical Advertising.

79 E. Adams St., Chicago.

Deaths

Dr. H. L. Foster, Reed City, Michigan.
born Dec. 15, 1857, died Nov. 7, 1915.

Dr. Foster graduated from the N. Y. Homeopathic Medical College and Hospital in 1881 and located at Reed City soon thereafter. In 1897 he was married to Miss Anna Stoddard of Reed City and she and a daughter, Miss Helen, survive him. His death occurred suddenly on the evening of Nov. 7, while returning from a professional call at Ashton. It happened that Mrs. Foster had accompanied him and without warning he fell over against her dead. The car he was driving stopped at once as his pressure on the exhilarator relaxed and Mrs. Foster found herself in a most distressing situation. After waiting vainly for someone to come along she finally was obliged to walk back several miles to Orono, where she telephoned Reed City for assistance.

The doctor had never had a serious illness except a severe attack of blood-poisoning several years ago, which undermined his strength and doubtless was the primary cause of the heart dilatation from which he died. He had been a most prominent member of Reed City society for thirty-four years; had served in various

official capacities, including that of Mayor of the city and numbered warm friends by the hundreds. Several of his friends told the writer that no other citizen there, if taken away, would be so sincerely mourned by so many people as would the doctor. He was a member of the Masonic order and of the Elks. In Masonry he belonged to all of the orders and he was buried under the auspices of Pilgrim Commandry K. T. of Big Rapids on Nov. 10, 1915. He was a charter member of the Osceola-Lake Medical Society and several times acted as its President. He also belonged to the Michigan State Medical Society and the American Medical Association.

Dr. Foster was one of the most intimate friends possessed by the writer in the Medical Profession, for a period of nearly twenty-five years, and it is a pleasure to testify concerning the many excellent qualities possessed by him. In professional circles he was always honorable and above board with his associates and did much to maintain the relations of cordiality and good fellowship that have existed in the ranks of the profession in his town. He was a typical old time family physician, with the welfare of the patients as his first thought. He was most modest in his pretensions and never cultivated the art of public speaking, but no one more successfully held the confidence and affection of those with whom he became intimately acquainted. He possessed to the fullest extent the elements of character that make good fellowship and those whom he honored with the full measure of his confidence will for long mourn his loss. For many years he was local surgeon for the G. R. & I. and the P. M. Railroad Companies, and his last professional work was to care for a lad injured upon the G. R. & I. road.

W. T. DODGE.

Dr. Henry Johnson, of Caseville, Mich., died Oct. 17, 1915 after an illness of nearly four years. Dr. Johnson graduated from University of Michigan in the early Sixty's. Served as Surgeon in the 6th Mich. Cavalry being mustered out with rank of Major. After the close of the war Dr. Johnson practiced in various places, coming to Caseville in 1875, where he led an active life until about four years ago. He was formerly a Fellow of the American Medical Association and a member of its component parts. He was an honorary member of the Huron County Medical Society and the oldest practitioner of the county.

Julius A. Post, one of Lansing's oldest doctors dropped dead Oct. 29 in Lansing while standing on the street corner waiting for a car. He was 68 years old and for the past thirty years had been a very popular physician in that city.

Dr. George E. Ranney, of Lansing, died on Nov. 10. Death resulted from a stroke of apoplexy. He resided in Lansing since 1866 and was a very prominent physician in that city.

Dr. Wayne Smith, of Detroit, died on Nov. 13 from a stroke of apoplexy. He was the Superintendent of Harper Hospital since the fall of 1913. He was 38 years old.

State News Notes

A series of lectures, plans for which were fathered by about thirty Detroit manufacturers, will be given this coming winter to give residents of the city opportunity to learn how to drive away humanity's ills. The lectures will be given under the auspices of the Detroit College of Medicine and Surgery and some of them will be illustrated.

There are twenty-four lectures listed and the subjects and the speakers are as follows:

"How to Keep Well," Dr. Guy L. Kiefer, former health officer; "Marriage Rites and Infant Care Among Ancient Romans," Dr. W. P. Manton; "Digestion and Efficiency," Dr. L. J. Hirschman; "The Physiology of Circulation," Professor W. H. Koch; "Practical Household Chemistry," Professor C. A. Doty; "The Prevention of Deformities" Dr. Daniel Laferte; "The Gas Bacillus," Dr. Angus McLean; "Some Plain Facts About the X-ray," Dr. Preston M. Hickey; "Microbes," Dr. P. F. Morse; "On the Detroit Water Supply From an Optimistic Standpoint," Dr. John E. Clark, county chemist; "The Teaching of Sex Hygiene," Dr. A. P. Biddle; "Sex Problems," Dr. F. W. Robbins; "The Child and the Home," Dr. Raymond Hoobler; "The Growth of Our Nervous System and How to Train It," Dr. Augustus Ives; "Cancer," Dr. J. Henry Carstens; "The Causes and Prevention of Diseases of the Heart," Dr. Charles G. Jennings; "Common Toadstools. Their Use and Abuse," Dr. W. H. MacCracken; "Talking, Hearing and Smelling; Their Care and Treatment," Dr. B. R. Shurly; "Mouth Hygiene as a Factor in Sickness and Health," Dr. Charles H. Oakman; "Economic Relations of the Eye and Every-Day Life," Dr. Don M. Campbell; "The Human Power Plant," Dr. Joseph H. Hathaway; "The Citizen and the Public Health," Dr. W. H. Price; "Tuberculosis," Dr. V. C. Vaughan, Jr.; "Disease; the Manner of Its Transmission," Dr. C. Hollister Judd.

The plan is to give the lectures in different parts of the city, and not have any of them duplicated in a stated section. Several churches and social clubs have asked for programs.

The following Committee on Arrangements for the next meeting of the American Medical Association, to be held in Detroit, June 12-16, 1916, has been appointed:

Chairman—Dr. L. J. Hirschman.
Treasurer—Dr. Thaddeus Walker.
Secretary—Dr. Ernest K. Cullen.

Sub-Committees—

Dr. E. W. Haass, Finance.
Dr. A. D. Holmes, Entertainment.
Dr. Frank B. Walker, Registration.
Dr. Jas. H. Dempster, Printing and Publication.
Dr. Frank B. Tibbals, Halls and Meeting Places.
Dr. J. W. Vaughan, Scientific Exhibits.
Dr. J. N. Bell, Commercial Exhibits.
Dr. Rolland Parmeter, Hotels.
Dr. Angus McLean, Automobiles.

The Chicago physician's bid for publicity in connection with his assumed attitude of permitting a deformed infant to die without the performance of a surgical operation is the rankest, rawest and most distasteful perpetration ever attempted by a medical man. If he is perchance affiliated with the Chicago Medical Society we trust his membership will be speedily revoked. Such bids for notoriety demand nought but severest criticism.

Dr. Wm. J. Mayo, of Rochester, Minn., will appear before the Kent County Medical Society on the evening of December 6 and before the Calhoun County Society on the evening of December 7. The Kent County Society will tender a dinner to Dr. Mayo at the Pantlind Hotel at 6 p. m. The profession in the vicinity of these two societies are cordially invited to come and hear Dr. Mayo.

Superintendent J. B. Draper of the University Hospital at Ann Arbor was instantly killed by being run over by a street car on the evening of November 13th.

Dr. F. J. Smith, formerly resident physician at Johns Hopkins Hospital has accepted the appointment of resident physician at the Ford Hospital at Detroit.

The next meeting of the Clinical Congress of Surgeons of North America will be held in Philadelphia in the fall of 1916.

The \$47,000 bequeathed to the city of Ypsilanti by the late A. Beyer is now available for the erection of a city hospital.

Dr. T. C. Buskirk of Portland has moved to Lake Odessa.

Dr. Rigterink of Zeeland has located in Kalamazoo.

Dr. Joe J. De Pree, graduate in this year's Class of the University, has located in Zeeland.

Dr. F. J. Larned, limiting his practice to diseases of children, has located in Grand Rapids.

Dr. F. W. Ilgenfritz of Kalamazoo has been re-elected county physician.

Dr. John B. Blum of Charlotte and Miss Mary K. Holt of El Paso, Texas were married October 20.

Dr. Hugh C. Graham of Barryton and Miss Nina M. Gamble were married on October 10.

Dr. H. C. Miller of Hillsdale was re-elected County Physician.

Dr. B. H. McMullen was elected Mayor of Cadillac on Nov. 2.

County Society News

CALHOUN COUNTY

Program—Nov. 12, 1915.

"Hysteria—Its Etiology, Diagnosis and Treatment."

Dr. W. E. Newark, Charlotte, Mich.

Discussion by Drs. E. M. Chauncey, E. C. Derickson.

"Malignant Ovarian Paratoma With Premature Puberty and Precocious Physical Development."

Dr. R. H. Harris.

Discussion by Drs. Thomas Zelinsky, Bertha Mosher.

"The Role of the Anesthetist,"

Dr. R. G. Leland, Kalamazoo.

Discussion by Drs. W. M. Putman, J. A. Elliott.

INFANT FEEDING.

Abstract from Article by Dr. W. H. Haughey.

When we remember that during intra-uterine life nutrition is by means of the mother's blood stream; that the fetus assimilates what it needs of the elaborated particles prepared in the mother's digestive system, we will see more clearly that during fetal life the digestive system, is undergoing a process of growth, when of course it cannot and does not functionate.

An interval of time is required for the functions of the digestive system and its associated organs and glands to become established. At birth there is no contractile, no peristaltic action in the stomach, no motive power.

It is probable that a selective process on the part of nature enables the blood stream of the mother to supply, and the fetus to appropriate, those particles required for its particular development.

Proteins are the energy producing, life giving, vitalizing elements of food. Minerals are organically combined with proteins in constant and unvarying proportions. Together they are the elements of growth.

Facts show that every healthy mother can nurse her baby, and her milk will agree.

Colic.

When from one cause or another, as necessary handling, clothing, heat, etc., a child is restless, all agree it has colic, hot water is given, and the child refuses to nurse. When nursing, a child may stop to rest fatigued muscles, and fall asleep. It soon becomes restless from hunger, colic is suspected, and more hot water is given. Again the child refuses to nurse. As long as a child can get hot water it will not nurse satisfactorily. Water prevents vigorous nursing. Vigorous nursing is required to stimulate secretion.

Artificial Feeding.

Artificial feeding should only be resorted to in cases of absolute necessity, as when the mother dies or is not healthy. When from absolute necessity some artificial food must be supplied it should be clean milk, modified to closely resemble mother's milk by some of the well known methods.

CLINTON COUNTY

At the annual meeting of the Clinton County Medical Society held at Steel Hotel, St. Johns, twenty-five Clinton county doctors were present. The applications of five doctors, C. T. Foo, C. R. Keller, A. M. Wheeler, A. M. Switzer, and A. T. Parrish were received with dues for 1916 and they were duly elected members making Clinton county twenty-seven Society members out of thirty-one eligible doctors in the county.

Dr. M. S. Gregory of Eureka was elected President.

Dr. James McGillcuddy of Ovid was elected Vice-President.

Dr. Eugene Hart of St. Johns was elected Secretary and Treasurer.

Dr. O. A. Hart of St. Johns was elected Delegate

Dr. M. Weller of St. Johns was elected Alternate.

Meeting then adjourned to dining room where a banquet was served after which Dr. F. B. Walker of Detroit read a paper on "Acute Abdominal Conditions." Dr. Mathews of Detroit opened the discussion after which nearly all of the members joined in the discussion of the paper. After a few short speeches by Drs. Gale, Too, A. O. Hart, Gregory, Squair and others the meeting adjourned to meet again first Thursday evening in November.

EUGENE HART, Secretary.

GRAND TRAVERSE-LEELANAU COUNTY

The annual meeting of the Grand Traverse-Leelanau County Medical Society was held on Tuesday evening, November 2, at the office of Dr. E. B. Minor.

The meeting was called to order by the President, Dr. J. F. Slepicka.

The following officers were elected for the ensuing year:

President—Dr. J. B. Martin, Traverse City.

Vice-President—Dr. H. Thurtell, Traverse City.

Secretary-Treasurer—Dr. W. D. Mueller, Traverse City.

Member Medico Legal Committee—Dr. G. W. Fralick, Maple City.

W. D. MUELLER, Secretary.

INGHAM COUNTY

The annual meeting of the Ingham County Medical Society was held at the Downey House, Lansing on Nov. 11 with President B. M. Davey in the chair.

A report of the Secretary-Treasurer,, Dr. L. C. Towne showed the Society to be in excellent shape financially. Three of our members, Drs. Julius Post, Geo. E. Ranney and J. F. Campbell have died during the last year and in their death our local Society and in part the whole profession has suffered a great loss. They were among the oldest in years of service permanently identified with the County and State Society. A committee composed of Drs. H. S. Bartholomew, L. W. Toles, and J. E. McIntyre was appointed to draw up suitable solutions.

The following officers were elected for the ensuing year.

President—Dr. G. F. Bauch.

Vice-President—Dr. F. A. Jones.

Secretary-Treasurer—Dr. Karl Brucker.

Member of Medico Legal Commission—Dr. M. L. Holm.

Delegate to State Meeting—Dr. B. M. Davey.

Alternate to State Meeting—Dr. B. D. Niles.

Member of Milk Commission—Dr. F. J. Drolett.

The retiring President, Dr. B. M. Davey gave an interesting address in which he reviewed many of the recent developments in Medicine and Surgery and anticipates great things for the future.

The meeting was followed by a banquet in the Downey Grille at which the member and their ladies were the guests of Dr. and Mrs. B. M. Davey.

KARL B. BRUCKER, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

The Kalamazoo Academy of Medicine has held meetings regularly on September 28, October 12 and 26, November 12 and 23 respectively. The abstracts here appended were obtained from papers presented at these meetings.

The annual meeting of the Kalamazoo Academy will occur on December 14, 1915 and Dr. John Hurty of Indianapolis will be our guest and essayist.

C. B. FULKERSON, Secretary.

October 26, 1915.

Abstract of Paper on "The Remote Effects of Inherited Syphilis."

Dr. Wesley Taylor.

One of the obstacles in the way of establishing such a relationship between a hereditary disease and the infection in the parent, was a misinterpretation of the laws of heredity. It has always been held that acquired characteristics cannot be transmitted. While this is true, the error lay in assuming that the leutic taint being an acquired disease, should act

as an acquired characteristic. In cases of active syphilis in both parents both germinal cells may be affected. If so they are weakened and fundamentally altered before conception occurs, hence the organism is basically affected, and the luetic taint becomes truly hereditary, and the blight is transmitted, to successive generations.

Though it is unusual, a large family of healthy children is no contraindication of past lues. I have in mind two families. One has six supposedly healthy children and numerous grandchildren in spite of the fact that the head of the family recently reacted positively to the Wassermann test, after which he admitted a primary lesion in his youth. In the other family the grandmother developed tabes—though all her four children are alive and well. Of their grandchildren, however, one has a rudimentary thumb and another has a double urethral meatus.

About ten years ago I had the opportunity of seeing a clinic on "Cured Cases of Lues," conducted by the celebrated Prof. Fournier at the St. Louis Hospital, Paris. He showed about fifty cases of syphilis which he had treated from beginning to end, over a period of two full years, and which he had kept under observation for a number of years following. These patients were, as I remember, all men who had married and were raising families. He not only showed these cases but showed some of the children in each case, making it the largest clinic I ever witnessed. In no case was there any sign or symptom of remaining infection in the patient. Nor had the wife suffered miscarriage or lost any of her children through luetic taint. Neither did any child show any symptoms whatever of hereditary lues. This was before the Wassermann test was known and before Schaudin demonstrated the spirochaeta pallida as the organism in syphilis.

It has been remarked many times that the descendants of luetic parents are especially susceptible to tuberculosis in all its forms, and they have so very little resistance that if they do not fall victims to other diseases they are very liable to extermination finally from consumption. Many families have been literally wiped out through this combination of diseases. It might be mentioned here that until recently most of the conservative Insurance Companies refused to accept as risks for insurance, persons who had previously had syphilis, unless they had taken two full years of continuous treatment, and had been free from any symptoms for at least one year following such treatment. If then the blood reacted negatively to a Wassermann test they might be accepted. Even with such restrictions the average mortality rate was 188 as compared with a normal death rate of 100. Today a number of leading companies refuse to take any one who has ever had syphilis—regardless of previous treatment or Wassermann test.

Fournier collected 46 cases of marriage of congenital luetics. Of 145 pregnancies forty-three aborted, thirty-nine were either still born or died soon after birth. Among the remaining sixty-three living children, all kinds of troubles appeared. Eye defects, brain tumors, rachitis, general retardation of physical development, infantilism, mental and idiotic dystrophies, epilepsy, hysteria, convulsions, heart neoplasms, closure of the urethra, anomalies of fingers and toes, atrophy of the tongue, congenital

amputation of extremities and neoplasms of palate, ears and tongue occurred among other things. All of these impairments even in the third generation were not accidental. They had a basis for their existence more potent than mere chance. If we find hereditary syphilis as a rule at the base of such eye trouble as optic atrophy, intestinal and parenchymatous keratitis, ptosis, ocular palsies and strabismus, Argyll-Robertson pupil, eczema tarsi, midriasis and unequal and irregular pupils, does it not seem reasonable that a comparable list of disorders of other organs might likewise be laid to hereditary lues?

The spirochaeta are probably not present in many of the more tardy manifestations of hereditary lues. Certainly they are no longer active in most of these troubles. At any rate it seems that the syphilitic infection has changed the germ plasm-cast in new traits and destroyed old ones—and changed the mold as it were. The old vigor and robustness exist no longer—the organism has degenerated. Unless an infusion of fresh new blood be brought in it is doomed to extinction. As the Bible says "The sins of the father are handed down unto the third and fourth generations." Whether or not it be handed farther or how much farther is a problem which will probably take some time yet to determine.

September 28, 1915.

Abstract of Paper on Treatment of Puerperal Infection.

Dr. Mark T. Goldstine, L.M., Chicago, Ill.

We know that puerperal sepsis is a wound infection and is due to the carrying in of micro-organisms by the doctor, nurse and sometimes the husband of the patient or the patient herself by taking douches immediately before the onset of labor. Consequently vaginal examinations should be restricted as much as possible. From the investigation of Kronig, Leopold, Williams and from many of my own observations am convinced that the normal vaginal secretions are sterile.

The treatment as carried out now in the gynecological service at Wesley Memorial Hospital is as follows, with, of course, such special measures as a few of the cases would require. At present the fundamental principle in the cure of the above disease is the establishing of an immunity within the patient to the infection by building up the patient's physiological resistance to a point when it conquers the infections.

These patients should be under the best possible hygienic surroundings and in view of this fact, we prefer the hospital to any other place. As soon as the patient enters the hospital she is given a bed where air and sunlight can be had in plenty, and the following is the routine treatment that is given.

1. The head of the bed is raised to comfortable degree. This favors drainage.

2. An ice bag is placed on the abdomen in all cases and one on the head if the temperature is fairly high. They relieve pain to a marked degree, quiet the patient, and reduce temperature to some extent.

3. A large amount of nutritious and easily digested food is given as quickly as the stomach will tolerate it.

4. Liquids are forced on the patient and at least two quarts must be taken daily, and as much more as the patient desires. This helps elimination and keeps up the patient's strength. Salines are given as the case requires but not continuous, as it disturbs the patient too much and good results are obtained by giving an amount which will be retained at periods from three to six hours apart.

5. The patients are taken outdoors when possible and sun baths are given frequently.

6. Blood, urine, etc. are analyzed.

7. Pain is relieved from six to eight hours so sleep is obtained daily.

The uterus and vaginal canal are not disturbed unless there is considerable bleeding. Should parts of the fetus, placenta, or ovum be retained there is no necessity of their removal as a septic uterus will in good time empty itself much to the patient's and attending physician's advantage. This I have proven clinically time and time again. Removal of debris cannot be accomplished without more or less traumatism. In this way new avenues for the entrance of infection are opened and, in a great many instances a mild mixed infection is turned into a very virulent infection and a virulent infection is greatly increased. Granting that the streptococcus is the worst form of infection and should be left alone because the patients have a better chance of recovery under that regime of treatment, then why should we curette, douche, etc. the milder infection? What is good treatment for the worst cases is surely good for the milder ones; and furthermore there are some streptococci in most every lochia examined. We will come to this a little later in our case reports.

DISCUSSION OF DR. GOLDSTINE'S PAPER.

Dr. Boys emphasized the fact that men doing obstetrics should be properly equipped in order to conduct properly obstetrical work.

Husbands should not sleep with patient after delivery.

It is important to examine after every operative delivery the whole vaginal tract in order to insure prophylaxis. Sepsis has developed before the physician has seen his patient in abortive cases and there is usually something in the uterus.

Dr. Stewart said that the old practitioner was often prosecuted for leaving placenta behind after delivery.

Dr. Scholten had cases that had done well when left alone and had become worse when interfered with.

Dr. De Witt emphasized prophylaxis. Position of parturient patient is of great importance. The dorsal position very bad one. He prefers the lateral position.

Puerperal sepsis is a lymphangitis. Sapremia results from a mass of putrefactive material in the uterus.

Dr. Jackson thought that when ergot is used all foreign bodies in the uterus should be removed so uterus could contract.

An Acute Metastatic Infectious Osteomyelitis and Arthritis.

Dr. John B. Murphy, Chicago, Ill.

Streptococcus viridans is a very virulent organism and is a factor in a great many cases of osteomyelitis. Dr. Murphy spoke briefly about the work of Dr. Rosenow of Chicago. Dr. Rosenow is the first worker in medicine to be able to change the morphology and pathogenicity of an organism through culture methods on different media. For example, from a single drop of a virulent culture of *streptococcus viridans* six cultures were made on as many different media. By growing these for many generations Dr. Rosenow produced *dispirococcus lanceolatis* which produces osteomyelitis and from another infectious arthritis, etc., etc. The transmutation of any organism had never been successfully performed before.

Definite infections elect specific tissues for destruction.

Tubercle bacilli select the knee or hip joint, then tendon sheaths. Why one joint?

Acute metastatic infectious osteomyelitis predominates in spring or fall. It manifests itself usually in eleven to fifteen days following an acute rhinitis or pharyngitis. Acute metastatic infectious osteomyelitis manifests itself in typhoid cases about the fifth or sixth week of the disease. Symptomatically it manifests itself by chill, fever and pain in limb. It is often very difficult to differentiate acute metastatic infectious osteomyelitis. During the first twenty-four hours there is no swelling but superficial tenderness of the joints in acute infectious arthritis but in acute metastatic infectious osteomyelitis swelling of joint does not occur and pain is elicited only by deep pressure for thirty second or more just a short distance from the joint just beyond the epiphysis. Remember that the infectious focus occurs in one of the nutrient vessels within the bone. Edema develops in the periosteum over the site of the lesion. It is only by deep pressure that pain is elicited. If the condition continues unabated the bone is destroyed, pus undermines the periosteum and spreads up and down the bone. The toxemia becomes very severe. In osteomyelitis pus does not develop between the epiphysis and joint, but tuberculosis seeks this area for destruction before entering the joint. In osteomyelitis the pus enters the joints by undermining the periosteum and then the perichondrium. In such advanced states the bone is destroyed and a stiff joint results. Only forty-eight or sixty hours are required to destroy the entire bone thus diseased.

When a diagnosis of acute metastatic infectious osteomyelitis has been made during the first twenty-four or thirty-six hours this is the time to act. Destruction of bone is from pressure of the pus. Destruction of the soft tissues of the fore arm from metastatic infection from a terminal phalanx is due to pressure. Pressure cause ischemia. The same process is at work in the bone. The infected focus must be evacuated. With knife and chisel or gimblet, first the soft tissue and the periosteum are divided. When one approaches the periosteum he will observe a white edema present. After one has removed the bone and entered the infected focus, pus will not rush forth with the same force that it will from

a pus pocket in soft tissues. But if one waits for a short period a small amount of pus will run from the infected bone. The old idea that the greater the amount of pus the greater the skill of the operator is no longer in evidence. Now our problem is to prevent the development of pus—how little pus do we get. We do not discuss the treatment of peritonitis any more in treatment of appendicitis but how to prevent peritonitis and development of pus.

If the acute metastatic infectious osteomyelitis progresses to the pronounced destruction of bone the pus must be evacuated, the limb mobilized, the sequesterum allowed to form and be removed and then bone transplantation or implantation is performed to stimulate osteogenesis. Dr. Murphy discussed to some degree the experimental and theoretical side of the source of the transplant whether it should be taken from animals or same species or from same person but it is now a recognized fact that osteogenesis is more greatly stimulated when the transplant is taken from same individual.

Dr. Murphy showed several lantern slides of the various steps in the development of a focus and acute metastatic infectious osteomyelitis and cases that had been successfully treated.

Acute metastatic infectious arthritis may develop from infection in upper respiratory tract. Symptoms are chill, fever and pain in infected joint. Edema or swelling after the first thirty-six or forty-eight hours, and superficial tenderness. The infection is not arrested within the joint cavity but in the synovial membrane outside of the endothelial layer. The fluid in the joint is made up of polynuclear leucocytes and lymphocytes. There are no micro-organisms. When fluid is withdrawn micro-organisms seldom ever enter joint. Fluid is a protection at one time called laudable pus. Remove fluid and lessen pressure and ischemia and prevent destruction of tissue. Incise capsule, remove fluid, instill formalin and glycerine then sew up. In another week incise and repeat process if necessary but do not use the old methods of drainage tubes inserted into synovial sac. These cause adhesions and ankylosis. Replace fluid withdrawn by some antiseptic that will make poor culture media for micro-organism. One can aspirate sac if desirable and inject an antiseptic. Buck's extension should be put on these cases to prevent destruction of ends of bones in the joints due to contraction of muscles and ligaments. Pressure destroys the synovial membrane then the cartilage. Every physician should be as careful about the treatment of his joint cases to prevent ankylosis as he is about his fracture cases to prevent deformity or non-union.

Dr. Murphy touched briefly upon the treatment of fractures. He thought that there were more cases of ununited fractures since the introduction of more perfect mobilization. With a fracture near a joint one desired perfect immobilization to secure smallest amount of callus and perfect coaptation of parts.

In inserting a transplant to unite a fracture one needed perfect mobilization so callus would not form between transplant and bony tissue to prevent osteogenesis. Too, one should elevate the periosteum back from the fractured ends and bone chips put between periosteum and bone to stimulate osteogenesis and prevent growth of periosteum between ends of bone that the transplant unites.

KENT COUNTY

The Kent County Medical Society resumed its meetings on October 13 after a summer vacation which, this year, included the State Meeting in Grand Rapids. Dr. J. G. Huizinga read an interesting and instructive paper on "Business Methods in the Medical Profession," and Dr. Richard R. Smith then gave a thirty minute talk on "Tumors of the Face and Neck," illustrated with a large number of fine, original lantern pictures of the various tumors described.

At the meeting of October 27, Dr. L. E. Sevey and Dr. A. H. Edwards were elected to membership. Dr. V. M. Moore reported excellently a case of multiple exostoses in a girl of 23. The guest of the evening was Dr. Charles B. Reed of Chicago who spoke on "The Induction of Normal Labor at Term." Although a number of objections might occur to the average physician with regard to any method of handling "confinements by appointment," Dr. Reed's paper was so carefully worked out and the possible adverse criticisms so well answered beforehand that the discussants were unable to bring their 42 centimeter guns into action to any appreciable extent.

On December 6, Dr. Wm. J. Mayo will be the guest of our Society at Grand Rapids. His subject will be "The Physiology and Pathology of the Large Intestine." This will be given at 8 o'clock. At 6 o'clock the Society will give a large subscription dinner to Dr. Mayo in the Hotel Pantlind ball room to which all physicians of Western Michigan are invited. The Society has decided to share half the expense of this dinner to the visiting doctors, and will make a charge of only one dollar a plate. Reservations should be made early and should be sent to the Metz Building, Grand Rapids to Frank C. Kinsey.

FRANK C. KINSEY, Secretary.

SOUTHWESTERN MICHIGAN TRIOLOGICAL ASSOCIATION

The regular meeting of the Southwestern Michigan Triological Association was held in Battle Creek Monday evening, October 18. There were present from out of the city Drs. Bulson, of Jackson; Welsh, Rogers and Roller, of Grand Rapids, and Wilbur, Bernstein, Grant, and Mr. Perkins of Kalamazoo.

Minutes of the two preceding meetings were read and approved.

The Secretary presented his report for the past year showing a membership of thirty-one and a balance in the treasury of \$9.03. The report was accepted and adopted.

Upon nomination of Dr. Bulson, Dr. Bernstein was re-elected President, and upon nomination of Dr. Wilbur, Dr. Haughey was re-elected Secretary.

Dr. Sleight presented several cases showing var-

ious conditions of the eye: Interstitial keratitis, opacities, abnormal conditions of the disc, etc. Dr. Haughey presented a case of black or hairy tongue. This is a very uncommon condition pathologically consisting of a hyperkeratosis, with an enormous increase in length of the papillae. The patch is extensive, and the "hairs quite fine, and all growing forward."

Dr. Haughey read a paper on some of the Phenomena and Treatment of Hay Fever. An active discussion followed, participated in by the members and by Mr. Perkins, a bacteriologist of Kalamazoo who has had considerable experience in working with pollen products.

The meeting adjourned to meet during November in Grand Rapids.

WILFRID HAUGHEY, Secretary.

WAYNE COUNTY

Program October 25, 1915.—Surgical Meeting.

Fractures of Spine and Pelvis (Illustrated),

Dr. Wm. A. Evans.

Fractures of the Skull (Illustrated),

Dr. Wm. J. Cassidy.

Discussion by Drs. Preston M. Hickey, G. C. Chene, J. E. King, Rollin H. Stevens, Chas. F. Kuhn.

Program November 1, 1915—General Meeting.

Marriage Rites and Obstetric Practices Among the Ancient Romans (Illustrated),

Dr. W. P. Manton.

NEWS ITEMS.

Physician's Business Bureau, John N. Bell, Manager, Cherry 3489.

Why is it that the Physician's Business Bureau is not a part of the Wayne County Medical Society? If there is a question in the minds of some of the medical profession that the Physician's Business Bureau is not popular they should have attended last Monday evening's meeting. We believe that scientific business methods are essential in the present day practice of medicine. If that be the case why is it that the Physician's Business Bureau is not a part of the Wayne County Medical Society? At present the President of the Wayne County Medical Society appoints four of the six members of the Board of Control, but such appointment must be approved by the East and West Side organizations. Though the books are subject to inspection, yet they are not under the control of the officers of the Wayne County Medical Society who handle the finances. It is being demonstrated that the Bureau is self-supporting. The society is incorporated and would give considerable prestige to such an organization as the Bureau. It is understood that there would be no objection to such a transfer on the

part of those who were instrumental in starting it. Is it not worth our consideration?

Program November 8, 1915.—Medical Section.

The Encroachment of Chronic Organic Diseases in this Country,

Dr. Eugene Lyman Fiske.

Director of Hygiene, Life Extension Institute, New York City.

Discussion by Drs. Wm. M. Donald, Guy L. Kiefer, R. A. C. Wollenberg, E. W. Haass.

Program November 15, 1915.—General Meeting.

Medico-Legal Night,

Dr. F. B. Tibbals.

Mr. H. Barbour, Attorney at Law.

Discussion by Drs. W. J. Stapleton, J. N. Bell, J. E. Davis.

We are pleased to introduce our new Librarian, Miss Ethel L. Goff, who took charge the first of the month. She will be assisted by a House Secretary, Miss Sara Spotteswood. We are sure they will receive a cordial welcome from all the members of the Society.

Program November 22, 1915.—Surgical Section.

Some Observations on the Surgery of the Bile Passages and Liver.

Dr. C. A. Hamann, Cleveland, Ohio.

Discussion opened by Dr. Angus Mclean.

THE TOLEDO TRIP.

On Friday evening, November 5, the Society accepted the invitation of the Toledo Academy of Medicine and made the trip to Toledo in a special car over the D. U. R. About twenty-five members attended, all of whom report a most enjoyable evening. The car left Detroit at 6:00 p. m., and returned, leaving Toledo at midnight, Detroit time. They had supper at the Toledo Commercial Club, after which a joint meeting was held.

Papers were read by Drs. Wilson and Hirschman, and a paper by Dr. Griswold was read in his absence by Mr. Clinton Chilson.

Dr. Levinson, of Toledo, showed a case of Hodgkins disease, and Dr. Morgan presented a case of persistent foramen ovale in a baby of ten weeks. The Wayne County Medical Society is looking forward with pleasure to the visit which we hope the Toledo Academy will pay us in the not distant future.

The following members attended the meeting: Drs. G. C. Bassett, J. N. Bell, A. P. Biddle, Chas. Barton, Harry Black, J. H. Carstens, H. R. Carstens, C. L. Candler, G. C. Chene, T. B. Cooley, Clinton Chilton, L. C. Donnelly, P. M. Hickey, L. J. Hirschman, C. B. Lockwood, A. L. Loucks, G. H. McFall,

R. H. Stevens, F. B. Walker and Walter Wilson, of Detroit, and J. E. Maunders and N. T. Langlois, of Wyandotte, and W. F. Ackers and C. T. Southworth, of Monroe.

NEWS ITEMS.

Physicians' Business Bureau, John N. Bell, Manager, Cherry 3489.

We hope you received your check the first of the month. Perhaps you have no accounts with the Bureau or perhaps you have not called and gone over those the Bureau has at the present time. There are those who still forget that time waits for no one, and forget to make a report when some debtor calls and makes a payment. The Bureau gets more out of it by collecting through the first form letter than when the account goes to the collector.

The Bureau is making a collection of case records and accounting systems. We ask every doctor having a system that is satisfactory to them to mail us a card of each. If we find your form meets with the approval with many, or that we can use it in drafting a new card, we will appreciate it very much. We intend keeping a stock on hand of the most popular forms.

We heard of one member who left his account with the Bureau long enough for the assistants to work up his claim to the point of payment then asked for the account back. What would you think of such a man?

The Board of Control is contemplating purchasing a metal filing cabinet. Do you know of any bargains? Points to remember! This Bureau is your Bureau, and your Bureau will be what you make it. We have welcomed all past suggestions and criticisms; have you made any suggestions or criticisms?

R. L. CLARK.

Program November 22, 1915.—General Meeting.

Syphilis of the Nervous System—A Review.

Dr. Chas. W. Hitchcock.

Discussion by Drs. A. W. Ives, Wesley Taylor, H. R. Varney.

The Salvarsan Committee submitted its report at the last meeting. After considerable correspondence with the Department of State at Washington, which exchanged cables on this subject with London, a beginning was made. While all was not accomplished which we desire, the English government has already permitted the release of a small quantity of Neosalvarsan. About 2,500 doses were accordingly shipped to New York and are being distributed to those who put in orders for this remedy. Such a small amount is manifestly inadequate to supply even a small percentage of the immediate

demand. A few of our local physicians were fortunate enough to get a tube apiece and in one case several tubes. However small and inconsequential this may seem at first glance, it is nevertheless a triumph and may be considered to indicate the adoption of a more liberal policy on the part of the British administration. Our Salvarsan Committee is to be congratulated on its success and commended for its able and earnest efforts.

The librarian has been calling overdue books. In view of the fact that the library is to be re-catalogued it is more important than ever that books be returned promptly.

The library is indebted to the kindness of Dr. Geo. Duffield, who has presented the following books to the library:

- Babcock, Robert H.—Diseases of the Heart and Arterial System.
 Cabot, Richard C.—Physical Diagnosis.
 Conn, H. W.—Agricultural Bacteriology.
 Cowing, W. H.—Blood Pressure.
 Croftan, Alfred C.—Clinical Therapeutics.
 Diday, P.—Treatise on Syphilis.
 Faught, Francis Ashley—Blood Pressure.
 Hare, Hobart—A Text-Book of the Practice of Medicine.
 International Clinics, vol. 3 (1906).
 International Medical Annual, 1911.
 Keating, John M.—How to Examine for Life Insurance.
 Noorden, Carl von—Clinical Lectures on the Pathology and Therapy of Disorders of Metabolism and Nutrition, 1907-1910.
 Osler, Wm.—Practice of Medicine.
 Savill, Thomas D.—Clinical Lectures on Neurasthenia.
 Schmidt, Adolf.—The Test-Diet.
 Slade, Chas. B.—Physical Examination and Diagnostic Anatomy.
 Whitla, Wm.—A Dictionary of Treatment; or Therapeutic Index.
 Wilson, J. C.—A Handbook of Medical Diagnosis.

In the past members of this society who are interested in the library have subscribed to a number of periodicals. We should like to have this custom continued.

Will former subscribers please demonstrate their continued interest in the library by renewing their subscriptions? We also wish to gain as many new subscriptions as possible. We would wish that others give this matter consideration and do their best to help us in fully equipping the library with the best known medical journals.

TRI-COUNTY

Meeting of Tri-County Medical Society was held in club rooms, November 4, 1915, at which time the following officers were elected.

President—R. J. E. Oden, Cadillac, Mich.

First Vice-Pres.—A. W. Harper, Manton, Mich.

Second Vice-Pres.—R. Brodner, Cadillac, Mich.

Secretary and Treas.—O. L. Ricker, Cadillac, Mich.

Following this election a committee was appointed to confer with health department, relative to diphtheria conditions in Cadillac.

OTTO L. RICKER, Secretary.

Book Reviews

DISEASES OF THE BRONCHI, LUNGS, AND PLEURA. By Frederick T. Lord, M.D., Visiting Physician Massachusetts General Hospital. Illustrated with 93 engravings and three colored plates. Cloth, 600 pages, Lea & Febiger, Philadelphia.

This is a practical treatise on the respiratory organs presenting current knowledge based on the literature and the author's personal experience.

Thorough in description text, clear in the discussion of each subject, instructive in its entirety, the work is assured to be appreciated by every practitioner and student.

PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. De Lee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Second edition, thoroughly revised. Large octavo of 1087 pages, with 938 illustrations, 175 of them in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$8.00 net; Half Morocco, \$9.50 net.

The author's name at once commands attention and respect. It is a work that no physician doing obstetrical work can be without—it becomes absolutely essential. This second revision has brought the book up to the date of August, 1915. The first edition filled a distinct want and this new edition more than supplies the want.

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume IV., Number V., (October, 1915). Octavo of 228 pages, 56 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bimonthly. Price per year: Paper, \$8.00. Cloth, \$12.00.

Received.

WHAT TO EAT AND WHY. By G. Carroll Smith, M.D., of Boston, Mass. Second edition, thoroughly revised. Octavo of 377 pages. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.50 net.

As a second revision with new subject matter on exercise, rheumatism and dietetics, together with revision of other parts of the text, this volume is made up of most practical information. It is a work that is required by every physician in order that he may intelligently instruct his patients what to eat and why.

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